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Crisis in Missouri's Boot Heel

by CHARLES S. HOFFMAN and VIRGIL L. BANKSON

ONCE again the threat of eviction has brought into focus the distress and insecurity of impoverished, land-hungry, buffeted sharecroppers and farm laborers of the cotton counties of southeastern Missouri.

Last January several hundred of these traditionally undemonstrative people obtained national attention for their plight by sitting down on the highways for a week. Their problems are persistent, continuous—chronic, not temporary. But this winter the worries have been heightened by the prospect of wholesale transfers of mortgaged land because of high average cotton yields and comparatively low land prices. It was reported that 1,500 families had received eviction notices.

Some landowners in the area and officials of Missouri and Federal agencies are pressing for a solution, but the problems are deep-seated and tend to form a vicious circle, hard to break. They arise from a general inability to change occupations, an increase in the volume of agricultural labor, a growth in population, the sharp recurrence of peak seasons and slack seasons, accentuated by the use of machines, the workers' psychological and physical handicaps and, more particularly, persistent, engulfing poverty.

A solution will not be easy to find when so many factors are involved. Several things are necessary, among them a need for a wider

understanding of conditions. This particular situation is localized, it is true, in southeastern Missouri, but its implications are much wider.

At the root of the trouble is the availability of employment opportunities, which is the most important single factor affecting a farm laborer's economic life. The accessibility of a patch of land to be farmed in the traditional sharecropper method is the most important single factor affecting the economic life of a sharecropper.

To a farm hired laborer, reasonable opportunities for continuity of employment at a living wage represent security for himself and his family; the degree of security and the standard of living are further reflected by the perquisites furnished by the employer and the wage paid.

To a sharecropper, the elimination of the yearly scramble for land, through improved tenure arrangements, represents security.

The difference between a sharecropper and day laborer is temporary and slight: This year's day laborer may have been a sharecropper last year and may be a sharecropper a year hence; the major competition between sharecroppers and day laborers therefore is for the limited security of being sharecropper. Those in both classes who cannot find land upon which to "make" a crop have no choice but to remain day laborers since few of them can change occupations because of lack of education or vocational training. They get that amount of farm work which farm operators, including the tenant and sharecropper, cannot perform.

To the farm owner, on the other hand, the employment of both the sharecropper and the day laborer represents an expense in the production of cotton and other crops and the natural tendency is to limit this expense as much as possible. Combined with the landowner's problem of curtailing labor costs for the entire year is that of having a large supply of labor on hand during peak periods which, in the cotton section, is during chopping and picking.

The Farm Labor Supply in the Area

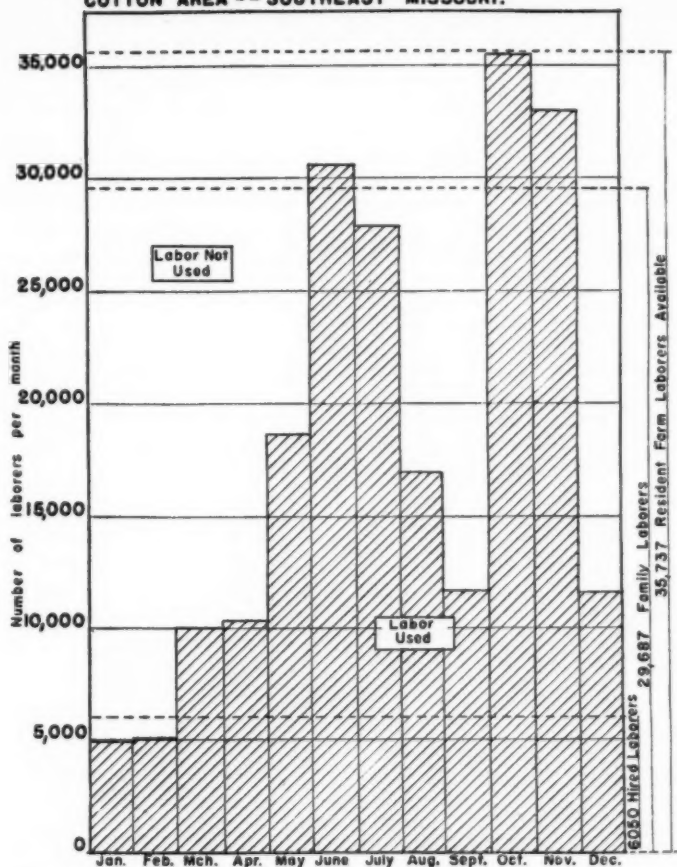
The relationship between the labor requirements of the area and the labor supply is, therefore, of major interest to both the landowner and the farm laborer. By measuring the local farm labor supply (which remains relatively constant) with the labor requirements (which fluctuate from month to month), the major problem periods for both landowner and farm worker can be visualized.

The area covered by this study includes the four major cotton counties of southeastern Missouri—Dunklin, Mississippi, New Madrid, and Pemiscot—which are in the rich, level bottom lands of the upper Mississippi Delta. The land is comparatively new, insofar as cotton production is concerned.

Working on the farms of the 4 counties during the first week of January 1935 were 29,687 family laborers and 6,050 day laborers, a

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**COMPARISON BETWEEN FARM LABOR REQUIREMENTS
AND AVAILABLE RESIDENT FARM LABOR.
COTTON AREA -- SOUTHEAST MISSOURI.**



total of 35,737.¹ Family laborers include all farm operators and members of their families who worked without pay on the home farm for the equivalent of 2 days during the week. Hired laborers include all

¹ United States Census of Agriculture, 1935.

who received wages for the equivalent of at least 2 days' work on the farm during the first week in January.

The following analysis between the available labor supply and farm labor requirements was made with full recognition of possible inaccuracies. The family labor figure will be in error to the extent that it does not include employable members of the family who were unemployed at the time of the census. On the other hand it includes family members who will not be available for employment 240 hours a month throughout the year. The number of hired laborers enumerated by the census during the first week of January was smaller than would have been the case had the enumeration been made later in the year. January is a slack season. Many unemployed laborers living on farms or located temporarily in tents and shacks at this date would not be counted in the census.

Since the 1935 census, the volume of agricultural labor has increased. So has the proportion of farm laborers to the total farm group. The growth of population through natural increase and from migration has made a large number of laborers available for employment. Labor-saving machinery has thrown additional persons out of work. The shift from the status of sharecropper to that of farm laborer has increased still further the number of men seeking employment, making the placement of unemployed farm laborers is more difficult today than in 1935.

It should not be inferred that the labor supply is always available when and where needed. Farm operators for example would probably not be available for work on other farms until they had finished the work on their own farms. In 1934 more than 84 percent of the farm operators did no paid work off their own farms.² This fact would indicate their unavailability for work on the larger farms during the periods of heaviest labor requirements in June, July, October, and November. Also to be considered is the mobility of the laborers. Work may be available for them in the next township or next county. If they do not know of the work opportunities, however, or if they have no means of getting there, they are not "available" even though they are a part of the total labor supply. The lack of mobility of resident laborers, therefore, may operate to decrease the actual labor supply below the potential labor supply. Such work opportunities may be lost to resident laborers and be performed by migrant laborers. Such an influx of migrant laborers would have the result of increasing the total labor supply, resulting in even greater unemployment for resident laborers.

² *United States Census of Agriculture, 1935.*

TABLE 1.—Man-hours required per acre in production of cotton,^a and estimated allocation by months

Harvest and preharvest operations	Total man-hours per acre ^a	Estimated allocation by months											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total.....	130.8	2.9	2.0	3.5	4.7	6.4	19.5	18.9	5.2	8.0	27.0	25.0	7.7
Field preparation (clear ditches, etc.)...	2.0	1.0	1.0										
Cutting stalks.....	1.0	.5											
Plowing.....	1.6	.1	.1	1.2	.2								
Disking.....	.5		.1	.3	.1								
Harrowing.....	1.0			.6	.4								
Bedding and rebedding.....	2.6			.6	2.0								
Fertilizing.....	2.3	.3	.3	.8	.9								
Planting.....	1.2				1.1	.1							
Cultivating.....	15.2					2.8	5.8	5.2	1.4				
Chopping.....	34.0					3.5	13.5	13.5	3.5				
Spraying.....	.7						.2	.2	.3				
Picking.....	68.7	1.0								8.0	27.0	25.0	7.7

^a The man-hour labor requirements per acre were taken from "Changes in Technology and Labor Requirements in Crop Production: Cotton," Works Progress Administration, National Research Project, Report No. A-7, September 1938, pp. 22-50, showing average labor requirements per acre for 1936 in the Mississippi Delta area. The allocation by months was estimated on the basis of a general knowledge of seasonal farm operations in southeast Missouri. Total man-hours for the total acreage in cotton was obtained by multiplying man-hour per acre requirements presented above by 259,621, the total cotton acreage of the area.

The Farm Labor Requirements in the Area

The total acreage of crops in the 4 counties was 763,828 in 1934. Of this, cotton was grown on 259,621 acres; corn on 314,520 acres; hay and sorghum forage, 81,990; winter wheat, 39,356; miscellaneous vegetables and crops, 15,211; potatoes, 1,432; miscellaneous small grains, 9,244, and miscellaneous legumes, 42,454.

The labor requirements for producing these crop acreages were computed by utilizing data obtained in the National Research Project of the Works Progress Administration in a series of studies on the subject of "Changes in Technology and Labor Requirements in Crop Production."

Labor requirements in terms of man-hours per acre for various crops and crop operations obtained from the studies for all crops except miscellaneous legumes were allocated by months to represent the periods in which they would most likely occur.³ The method used in computing per-acre labor requirements is subject to some margin of error, but this does not disqualify its use. Total man-hour labor requirements were reduced to man-days by dividing by 10, assuming a 10-hour day, and to man-months by dividing by 240. A man-month of 240 hours makes allowance for one man working 24 days of 10 hours each.

The estimated man-month labor requirements for all crops included in the 1935 census is given in table 2. In the production of 763,828 acres of crops, the total labor requirements for all months of the year were 219,363 man-months, or an average of 18,280 man-months per month. Thus, if the work were equitably distributed throughout the year, only 18,280 persons would be needed out of 35,737 available. However, the actual estimated requirements ranged from a low of 4,940 persons working 240 hours each during January to a high of 35,523 persons working the same number of hours in October.

Peak seasons and slack seasons feature farm labor requirements. Other factors which tend to accentuate the disparity in labor requirements between the peak seasons and slack seasons are the increasing use of tractors and power farming for many processes except cotton chopping and picking, and the Federal crop-reduction program.

Evidence of a Farm Labor Surplus

Some interesting comparisons may be made between local farm labor supply and farm labor requirements from the summaries contained in table 3. First, it can be seen that the available local labor greatly exceeds the requirements for all months of the year except June, October, and November. To meet the requirements of January for 4,940 laborers,

³ See table 1, *Man-hours required per Acre in Production of Cotton and Estimated Allocation by Months, for method used.*

TABLE 2.—Estimated total man-months^a of labor required in production of crops, allocated by months

Crop	Total man-months per year	Estimated allocation by months											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total.....	219,363	4,940	5,166	10,002	13,268	18,653	30,667	27,854	16,925	11,691	35,523	33,037	11,637
Cotton.....	141,166	3,137	2,163	3,786	5,084	6,923	20,986	20,337	5,517	8,654	29,207	27,043	8,329
Corn.....	59,061	1,179	2,359	5,373	7,208	10,573	6,815	3,276	7,863	131	5,504	5,897	2,883
Hay and sorghums for forage.....	2,699	154	140	37	.....	33	138	673	743	468	196	.....	117
Winter wheat.....	3,182	131	148	33	.....	16	968	771	361	394	246	16	98
Miscellaneous small grains.....	622	31	35	19	8	4	.....	116	266	89	31	.....	23
Potatoes.....	319	22	17	29	36	32	33	38	76	36	.....	.....	(^b)
Vegetables.....	8,368	127	127	318	507	824	1,585	2,218	1,268	1,141	127	63	63
Miscellaneous legumes for forage and seed.....	3,946	159	177	407	425	248	142	425	831	778	212	18	124

^a Total man-hours were first calculated upon the basis of a table similar to table 1 for each crop. Total man-months, as presented in table above were calculated from total man-hours by dividing by 240, which allowed for 24 working days of 10 hours each.

^b Less than 1 man-month.

of February for 5,166, of March for 10,002, of April for 13,268, and May for 18,653, there were available 35,737 family and hired laborers, leaving a surplus for each of these months of 30,797 to 17,084 laborers.

In June and July the surplus becomes less pronounced because the total labor requirement advances to 30,667 and 27,854, respectively, although a sizeable surplus is evident even during these months. During August and September the surplus again becomes greater, but is nearly eliminated in October when the cotton-picking requirements increase the total for the month to 35,523 persons, leaving only 214 extra workers.

If there were an equitable distribution of work opportunities to family and farm laborers, each would receive 142.5 days per year or 11.9 days per month. This average, in turn, would entitle each worker to the low employment of 3.3 days in January and 3.5 in February to the high of 22.2 days in November and 23.9 in October.

As a practical matter of performing field operations, however, most farm operators utilize their own labor and that of their families as much as possible and hire farm laborers only when necessary. In general, therefore, it can be said that the work opportunities given the farm laborer is the residue which farm operators are unable to perform.

This factor would have a material effect in decreasing the average days of work per year for the average farm laborer and increasing them for the family worker. Also, since sufficient family workers are available for performing all work requirements for most months of the year, the tendency is for the residue of work available to the average hired laborer to be concentrated in the chopping and picking of cotton. To many farm workers this tendency creates problems resulting from under-employment throughout the year and to others from unemployment during off seasons.

Unused Labor: A Many-Sided Problem

The immediate effect of a labor surplus is the unemployment of many individuals who are willing and able to work and who have no other sources of income. Even in the month of heaviest labor requirements there is not enough farm work to provide full-time employment to all resident family laborers and hired laborers. A large proportion of the farm-labor families must live 12 months on the employment obtained during the chopping and picking of cotton. Each family makes what effort it can to spread this income over a larger part of the year but even then the income is insufficient to supply the essential necessities, such as proper food, clothing, and shelter for the average farm laborer and his family.

In many respects, the causes and the effects of a labor surplus in the cotton area form vicious circles of interaction and self-perpetuation.

The lack of education may be evidenced by inability to increase the income, or to budget available income more carefully. The lack of available income causes psychological and physical, as well as economic, handicaps which materially limits the search for employment or better opportunities in the same or in other communities.

The lack of proper clothing, transportation, membership fees, and other costs prevents participation by the family in farm clubs or other vocational guidance groups from which practical education and training could be obtained. Also, the family with its meager income cannot afford a house which meets minimum standards of health and sanitation, an automobile, or other evidences of economic advantage displayed by the more fortunate families of the community.

Distinct economic levels are formed which discourage if not prevent, participation of this farm-labor family in certain community activities enjoyed by the more well-to-do families. In other words, the unfavorable economic position which creates a need for education, vocational guidance, and other community activities in a large measure prevents the family from satisfying those needs.

The family members need to know how to budget their income and how to take advantage of economic opportunities in other communities or in other vocations. The Farm Security Administration is able to reach a few of these families, making available to them instruction in farm and home management. The majority of such families, however, have no means of obtaining instruction and guidance other than through local groups sponsored by State or community organizations. The children of these families have little opportunity of receiving education beyond the elementary rural school, and very often are unable to attend beyond the first few grades. Even while attending school, the maximum benefits may not be obtained by a large number of children because of the ill effects of inadequate nutrition and the lack of proper medical care.

The public schools do not reach as many of the children of these families as would be desirable. Information covering only the farm labor group is not available, but within the total population of the area at the time of the 1930 census, approximately one child in five between the ages of 7 and 17 was not in school. The proportion of children of school age not in school is probably much larger among the farm labor than among the other rural groups because of loss of school attendance resulting from the employment of children, residence changes of the family, and inability to meet school expenses. It is true, also, that many families are indifferent toward education and do not encourage their children to attend school, even when it is possible for them to do so.

The change in status between farm laborer and cropper adds to the instability of the farm labor group. Between 1929 and 1936, 64 percent

of those who were croppers in 1929 had changed their status.⁴ Thirty-six percent of them became farm laborers. Among the group who were farm laborers in 1929, 20 percent became sharecroppers in 1936. The trend is from sharecropper to day laborer rather than from day laborer to sharecropper.⁵

High mobility within the farm group is also reflected in short length of residence of farm operators, including owner, manager, tenant, and sharecropper. In the four counties, 54 percent of these operators had lived on their present farms not more than 1 year.⁶ Such a high frequency in the changes of farms by farm operators adds to the already high mobility among farm laborers, who may or may not be rehired on the same farm by the new operator. Causing further pressure in the localities are an influx of unemployed laborers seeking work, temporary or permanent migrants from outside the area, displacements by machine operation of farm work, and the constant increase of population.

The Nature of a Solution

Within the rural-farm population of Missouri, in 1930, there were 657 children under 5 years of age per 1,000 women aged 20 to 44.⁷ Such a fertility ratio is well above replacement needs to maintain the population in its present numbers. The ratio of children per 1,000 women aged 20 to 44 in the Cotton Area is 746, or 14 percent higher than the fertility ratio for the State. The decline of employment opportunities in urban areas elsewhere has retarded the migration of the surplus population from this area. Individuals and families who formerly would have migrated to seek work are remaining and competing with the rest for the chance to earn a livelihood. Urban opportunities within the area are slight. Only 10 percent of the population of the Cotton Area live in urban residences and more than 74 percent of the rural group are on farms.⁷ Many of the farm operators are not in a position to hire much outside labor or pay a very high wage. In 1929 more than 43 percent of the farm operators had gross farm incomes under \$1,000, while almost a fourth of them received less than \$600. The farm operators reporting these figures are mostly tenants and croppers operating small acreages.

⁴ Unpublished data in the files of the Farm Security Administration, Region III, Indianapolis, covering sample areas in Butler, Dunklin, Mississippi, New Madrid, Pemiscot, Scott, and Stoddard Counties in southeast Missouri.

⁵ This same trend is noted in a recent survey of a similar area. See "Plantation Organization and Operation in the Yazoo-Mississippi Delta Area," by C. L. Langsford and B. H. Thibodeaux, U. S. D. A. Technical Bulletin No. 682, Washington, May 1939.

⁶ As of January 1, 1935, United States Census of Agriculture, 1935.

⁷ United States Census, 1930.

TABLE 3.—Comparison by months of farm labor supply and requirements

Month	Farm labor supply ^a Jan. 1, 1935			Total farm labor ^b requirements (persons)	Unused but available local labor		Average man-days work ^d for all labor if evenly divided
	Family labor (persons)	Hired labor (persons)	Total number of persons		Persons per month ^c	Percent of supply	
Average.....	29,687	6,050	35,737	^e 18,280	17,457	48.8	(^f)
January.....				4,940	30,797	86.2	3.3
February.....				5,166	30,571	85.5	3.5
March.....				10,002	25,735	72.0	6.7
April.....				13,268	22,469	62.9	8.9
May.....				18,653	17,084	47.8	12.5
June.....				30,667	5,070	14.2	20.6
July.....				27,854	7,883	22.1	18.7
August.....				16,925	18,812	52.6	6.6
September.....				11,691	24,046	67.3	7.9
October.....				35,523	214	.6	23.9
November.....				33,037	2,700	7.6	22.2
December.....				11,637	24,100	67.4	7.8

^a United States Census of Agriculture, 1935.^b From data in table 2, each man-month representing 1 person working 240 hours per month.^c Obtained by subtracting the "Total farm labor requirements" from the "Farm labor supply," including family and hired laborers.^d Obtained by dividing total man-days labor requirements for all crops for each month by 35,737, the number of persons representing the farm labor supply.^e Total number employed (219,363) divided by 12.^f For the year 142.5; for the month 11.9.

It is evident that no favorable solution will occur without conscious effort by the communities involved, with the assistance of State and Federal agencies. To let the situation continue is to condemn a large group of employable workers to long periods of idleness and poverty.

The failure to use available man power creates a tremendous economic and social loss not only to the individual laborers and their families but to their communities, the State, and Federal Government. Besides the waste of man power there is an added cost upon the community, State, and Nation in the form of relief and other assistance.

The community is less able to support an enlarged relief program because its taxing base is reduced. There is a commercial loss to the local merchants and professional groups due to the inadequate buying power of this large group. These and similar conditions are increasing the economic pressure which as yet has found no means of release from a situation in which an area of fertile agricultural land finds itself unable to support its resident farm population.

How to Meet the Challenge

What can be done to solve these problems?

How can the farm labor group be made more self-sufficient and less dependent upon intermittent work?

How can these problems be solved and yet not jeopardize the farm operators' chances of having available labor when needed?

These problems present a challenge to the community. They can be solved within the framework of democratic processes.

A solution satisfactory to all parties is probably not possible, however. The very nature of democratic processes involves compromises by various groups and individuals so that the general welfare may be served. It may become necessary to adjust present patterns or construct new patterns of economic relationships. The existing structure built up through haphazard accumulation during the expansion of cotton as a major crop, has indicated an inability to afford a satisfactory living to the farm group as a whole.

More equitable arrangements are needed between farm laborers and farm operators, and between the rural community and these less fortunate segments of its population. A democratic community approach to the problem would suggest a considerable variety of measures which might be undertaken locally. It would also suggest other measures to be undertaken with the assistance of responsible State and Federal agencies.

There is a real need for tolerant county planning committees democratically constituted so that sharecroppers and day laborers, as well as land owners and governmental units, will be represented. The problems

of insecurity of the low income group can best be solved in an informal atmosphere so that the decisions and planning will be on truly democratic principles.

There is a real need for increasing the security of tenure of sharecroppers and of reducing the unstabilizing trend toward the substitution of day laborers for sharecroppers. Perhaps favorable answers to these needs can be furnished by landowners. The security of sharecroppers could be increased by agreements between sharecropper and landlord which provide the former with longer assured periods of land tenure than the customary 1-year period. Individual effort on the landlord's part would be of material assistance in reducing the trend of substituting day laborers for sharecroppers.

There is Need for Land Opportunities

There is a real need for a provision whereby at least some of the land-hungry sharecroppers and day laborers may have the opportunity of becoming owners of family-sized plots. A successful experiment in this direction is being conducted by the Farm Security Administration at LaForge, Mo., in New Madrid County. The development of ownership of family-sized units of good land, with favorable financing methods, warrants consideration of large landowners and local financial institutions.

There is a real need for an instrumentality for bringing together land operators who are seeking workers and farm laborers who are looking for work, thus conserving available work opportunities for local labor. To fill this need, the facilities of the United States Employment Service, cooperating with the Missouri State Employment Service, might well be recruited with the thought of providing an adequate farm labor placement service. While this agency cannot create jobs where none exist, it can eliminate the situation wherein farm operators recruit workers from other areas when the local labor supply is sufficient to meet the need. By informing farm laborers of all employment opportunities it can eliminate the expense to them of constantly seeking jobs.

There is a real need for adequate housing facilities for farm laborers during periods of slack employment when many are not housed on farms. The cooperation of the Federal Government could be sought to help in the solution of this problem. Such facilities should be located in areas accessible to work opportunities.

They should include a sufficient number of units so that sanitary and community facilities could be provided at a minimum cost and also so that servicing by the employment office could be most efficiently done. The farm labor placement service should be informed by farm operators of all employment opportunities in the area.

A Way to Increase Real Income

There is a real need for means whereby farm laborers can increase their real income through their own efforts, when work for pay is not available, by producing food, clothing, and other essentials for their home consumption. Adequate garden space could be made available by the farm operator to workers housed on individual farms; the necessary incentive for farming it could be provided by assuring the laborer of a tenure status which would enable him to harvest it. For other laborers adequate garden space could be provided by leasing or purchasing land for this purpose. This should be supplemented by providing seed, plowing, and supervision, including supervision of the canning of vegetables and fruit. A supplementary part of this program might well be the training of farm workers in handicraft work. Such training might conceivably aid them in improving home environment and, possibly, increasing the annual income through the sale of hand-produced articles.

There is a real need for further rehabilitation of the farm worker through programs resulting in more adequate medical care, greater participation in community affairs, increased educational advantages, and possibly vocational guidance. All of these, and more, could be woven into a well-rounded program which over a period of years would decrease greatly unrest from insecurity and increase the value of the farm laborer to his community.

The development of a comprehensive plan to deal with the complex social and economic problems can be accomplished best by the local communities in an attitude of determination that such problems shall be solved, with the technical and financial assistance of State and Federal agencies. Although the problems lie within the community, they are too great and too complex to be solved in their entirety by the farm operator and the farm laborer, acting independently. The cooperation of both, combined with that of other elements in the community, together with the State and Federal Governments, can provide the solutions.

78 Farmers Make a Map

by N. S. HADLEY

SEVENTY-EIGHT farmers of Parke County, Ind., have been drawing a map of their county. They started with memories of what it used to be. They took stock of their problems, resources, and opportunities. They "wanted to find out where they are before they attempt to determine where they are going." And they are winding up with a new experience in democratic processes and with conclusions that startle even themselves: That problems of tax delinquency, relief, erosion, declining fertility, and faulty management are linked with their finding that of 280,000 acres in this above-average Indiana county only 112,000 acres should remain in cropland use.

At the first meeting of 24 members of the county land-use planning committee, somebody started the ball rolling with the remark that he had driven through Jackson township the day before and was astonished by the changes he had noticed. He always thought it was pretty good land, he said. There were, about 20 years ago, two or three schools there. Roads were all right. People seemed to be getting along. Five or six families lived on that road, he recalled.

But, he continued, there has been a change—gradual enough, but astonishing when one had not visited the community in several years. Some fields were full of weeds. One school was closed. Roads had deteriorated. Pastures looked worn out. Erosion was increasing. Families had moved away. Buildings were run down.

What happened? Why?

He got no immediate answer. Somebody else was reminded that his son had remarked the same thing, that things appeared better when he was a boy. "I guess they just weren't good farmers there," he said.

Others joined the conversation: Pastures seemed greener a generation back. Erosion was becoming worse in one township. Many were on relief in another. Living standards and conditions were going down.

Inferior Soil—Depressed Communities

One farmer interjected the question, "Where is that?" A standard map was found, and the areas mentioned were pointed out. The depressed communities, they found, were in regions of inferior soil. There, too, tax delinquencies were concentrated or there were evidences of inefficient farm management, improper land use, inadequate finance, or insufficient acreage.

The next step followed logically. Work was started on a preliminary map after a discussion of possible rehabilitation, of the principles underlying effective soil use, some of the problems facing agriculture gen-

erally, the need for plans, the functions and coordination of agricultural agencies whose help was available, and utilization of local resources. J. B. Kohlmeyer of the land-use planning division of the Bureau of Agricultural Economics, Lafayette; J. C. Bottum of the Farm Management division of Purdue University, and the county agent worked with the committee whose members represented 10 of the 13 townships in the county.

The preliminary map indicated generally the location of various areas of the county according to these classifications:

Area A—Rough, poor land (submarginal for agricultural use).

Area B—Turkey Run State Park.

Area C—Rolling to rough; thin soil (marginal for cultivation).

Area D—None (land which should be brought into farm use).

Area E—All farm land:

a. Dark, level soil.

b. Level to rolling, light-colored soil.

c. Creek and river overflow land.

d. Sandy and gravelly soil (second bottom).

e. Muck.

f. Blow sand.

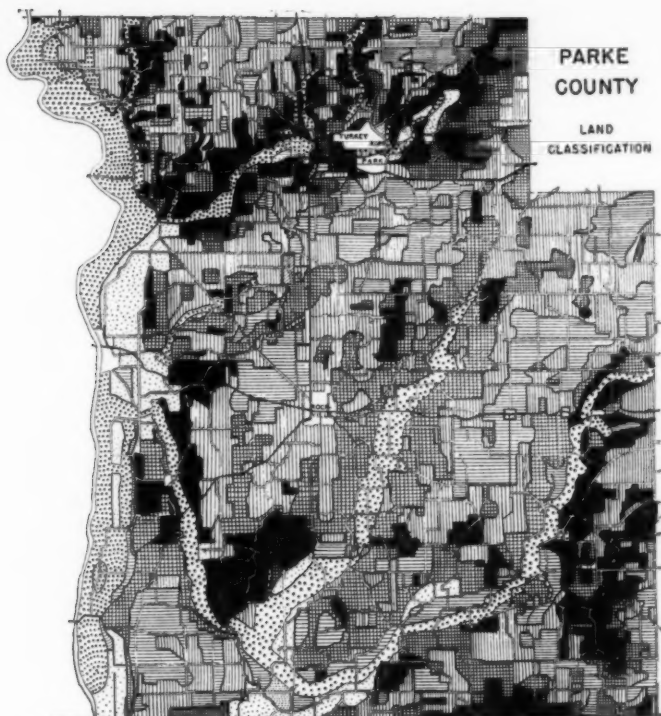
This was the result of a searching consideration of the soils in the county. Some particular area would be mentioned in a general way; there were differences of opinion as to the value of this or that field; it became apparent that impressions of the worth of certain areas were general, vague, or even incorrect. When one of the committeemen could not identify a piece of land exactly in terms of what the soil could grow, the problem was tabled for later consideration. The terms "good" or "bad" were eschewed in reference to land. The criterion was what the land would grow.

Rich Land, Poor Land of an Indiana County

That farm near Milligan, someone would remark, is of dark, level soil, productive, and adapted to a different kind of management than this or that farm, for example. With that as a norm for judging other localities, the committeemen marked comparable areas.

Southwest of Rockville there is a different kind of land, rolling, light, and subject to erosion if improperly handled, but satisfactory under careful management. As far as possible, the committeemen located similar areas in other parts of the county. The borders of creeks were checked and analyzed. Then came a discussion as to whether the hilly land should be devoted to woods or pastures. River and creek bottoms and the extent of muck were marked.

As the discussions, arguments, and map making progressed, there developed in the mind of each a realization of inexact knowledge of his own community, a growing appreciation for the importance of land



AREA		ACREAGE	RECOMMENDED USE	PREPARED BY: PARKE COUNTY LAND USE PLANNING COMMITTEE
A	ROUGH POOR LAND UNSUITED TO AGRICULTURAL USE PRIMARY SUITED TO TIMBER PRODUCTION	9,000 OR 18%	TIMBER	
C	ROLLING TO ROUGH - THIN SOIL UNSUITED TO CULTIVATION PRIMARY SUITED TO PASTURE	53,000 OR 20%	PASTURE	
E _A	LEVEL - DARK COLORED SOIL	44,000 OR 16%	81% CROP LAND CROP LAND USE - 30% CORN 30% SMALL GRAINS, 40% HAY & PASTURE	
E _B	LEVEL TO ROLLING - LIGHT COLORED SOIL	82,776 OR 30%	55% CROP LAND CROP LAND USE - 25% CORN 25% SMALL GRAINS, 50% HAY & PASTURE	
E _C	OVERFLOW LANDS	31,600 OR 11%	80% CROP LAND CROP LAND USE - 80% CORN 20% SMALL GRAINS, 80% GREEN MANURE & COVER CROPS	
E _D	SANDY AND GRAVELLY SOILS - MOSTLY SECOND BOTTOMS	12,500 OR 4 1/2%	85% CROP LAND CROP LAND USE - 25% CORN 25% SMALL GRAINS, 50% HAY & PASTURE	
E _E	MUCK SOILS	500 OR 0.2%	NO RECOMMENDATIONS	
E _F	BLOW SAND	1,000 OR 0.3%	NO RECOMMENDATIONS	

This is a corrected, combined map of Parke County, Ind., the product of 78 farmers and farm workers who "wanted to see where they were going" and who completed this step in county planning with a deeper understanding of their agricultural problems.

itself in his own life and his neighbors' and an understanding of the value of the work, for himself and those to follow.

"In my opinion," said the chairman, Willard Singleton, "the most valuable result that can come from land-use planning is to keep from wasting so much energy. Farming submarginal land wastes not only energy but farm resources. Most of our problems arise from the fact that the land is not used in the way Nature intended."

W. B. Guthrie seconded his remarks: "It is just sound business to use this land for what it is most efficient."

It was planned, too, to conduct meetings in each township of the county. These were set for the following month and the farmers attending had the duty of making detailed land-use maps for their respective communities, along with estimates regarding the present uses of the land and recommended uses of the land in each area.

Township Members Have an Eight-Hour Day

The township meetings were conducted in homes, schools, or churches. Ten of the sessions lasted all day, as much as 8 hours. Four to eight farmers attended each. Mr. Singleton was present to coordinate the work of the various committees. The county agricultural agent and his assistant attended to give secretarial and clerical help but avoided contributing to the conclusions. Three meetings were at night and lasted 3 hours each.

The procedure in the local township gatherings was like this:

A brief outline was given of what work was being done on a National and State scale. The wisdom of applying the various types of effort in their communities was discussed. A report of the county committee meeting was read and the broad land classifications were explained. Then, by using a form prepared in the county office, each land area was analyzed according to its extent in the township, the present use, and the recommended use. On plat maps, the entire area of the township was divided according to the various classifications as determined by the township committee. A wide variation of opinions was revealed, but in nearly all cases definite conclusions, satisfactory to all, were reached.

With colored crayons the committeemen went to work. Those sections that they found to be level and dark colored, they colored red; orange indicated level to rolling, light-colored soil; blue meant rolling to rough, thin soil; green showed creek and river bottom soil; black was for rough timberland.

For each category they filled in a duplicated form which listed nine points and read: (1) the soil fertility is being maintained on . . . percent of this area; (2) the cropland in this area on which soil fertility is being maintained is being used as follows: . . . percent corn, . . . per-

cent small grain, percent hay and pasture; (3) present use and rotation, recommended use and rotation; (4) need for limestone and the rate of application; (5) and (6) does this land respond to the use of phosphate and potash; (7) the most desirable family-size farm in this area; (8) summary of cropland use, 1936-37, taken from Soil Conservation files; (9) summary of land use as calculated from recommended rotation; percent corn, percent small grains, percent grasses.

More Than a Map is Produced

As the work progressed, its byproducts became more apparent. The task was an excellent means of education, the farmers discovered. It was a good approach to an accurate inventory of the resources and problems of the area; it provided factual information regarding the physical, economic, and social factors pertinent to the area; local people and the workers were becoming conscious of their opportunities and problems and the need for planning a course of action; they knew they were gathering information for various action agencies to help in coordinating and increasing the efficiency of their services.

The first drafts of the township maps were accurate enough. Farmers were frank in their appraisals of their own land, or their neighbors'. If a question arose or if information was scant and subject to question, visits were made later to the spot.

The township meetings completed, the county executive committee met to summarize the work of the township groups and write the report. The township maps were combined to make a county map.

That report had much of interest and importance in it. Parke County, the farmers found, could be divided into seven general areas with respect to soil types. Approximately 18 percent of the land was found to be submarginal for agricultural use. An additional 20 percent was discovered to be submarginal for cultivation. Of the remaining 62 percent, less than one-half should remain in cultivation. About 85,000 acres, or 30 percent of the county, was considered suited only for timber production, and 70,000 acres were adapted to the production of permanent pasture.

When the findings were all in, it was apparent that the concentration of tax delinquencies and relief in the poor-land areas added materially to local tax burdens and that 75,000 acres of woods pasture were neither good woods nor good pasture.

The map makers also found that additional information was needed on pasture improvement, the management of overflow land, and controlling creek and river channels. They found, as well, that much of the inefficient farm management and improper land use came as a result of inadequate finance.

One Task Is Ended, But the Work Goes On

What is to be done with the map now that it is nearly ready?

In the first place, the map showed the need for more information. A program was outlined in this connection—to locate the places of tax delinquencies, clients of the Farm Security Administration, the homes of school children and school bus routes, improved and unimproved roads, the assessed valuations of land, tenancy, participation in agricultural conservation, all direct Extension Service contacts (such as 4-H Club members, home economics club members, 5-acre Corn Club members, livestock breeders' association members, and project demonstrators), livestock distribution per farm by land-class areas and size of farms.

The report pointed out the need for an educational program regarding pastures, a forestry program, and different kinds of farm-management program in each area.

The preliminary map and report were completed in the spring of 1939. Meetings this winter have to do with trying to find answers to several questions on the basis of the map-making experience:

Should the county extension program be modified to apply to specific areas instead of a general program for the county as a whole?

Should the agricultural conservation program be modified with special features for the various areas?

In what areas should the Farm Security Administration operate?

How can the Soil Conservation Service be of greatest help in the solution of these problems?

Is this work of any value to the rural women of the county in the development of their program? Can the women of the county do something to help in the solution of these problems?

How can the size of the farm unit be enlarged?

How can the problem of inadequate finance be attacked?

The Women Start Their Own Survey of Home Life

One of those questions already has received a great deal of study. That has to do with the women's program. While their menfolk were making the maps, the women became interested in the project and started a comparable home-planning survey under the guidance of Miss Charlotte Etter, the county home demonstration agent, and two workers from the United States Department of Agriculture. The survey seeks information on a variety of topics.

These include tenancy, ownership, and stability; size of farm; the number in the family and their ages, the education of members of family, and health; the upkeep of house and grounds; the quantity and quality of furnishings, means of lighting and heating, bathroom; home equipment (washing machine, sewing machine, telephone, kind of stove, sink, refrigeration, sweeper, radio); food management; the amount of food purchased, home-produced and canned; clothing management;

time management (the amount of time devoted to farm activities and the responsibilities of other members of the family regarding household activities); education, the participation of the family in clubs; plans for the children to finish high school, college, or business college; leisure, recreation, informal social life; life, real estate, personal household, and farm insurance; net worth of family; statement of needs.

This is an ambitious program, but I am not alone in believing that it marks the dawning of a new day in Parke County. I was the county agricultural leader 4 years in Franklin County and another 4 years in Fulton County, but the making of the land-use map in Parke County has given me a clearer picture of the agricultural problems in the county than I ever had of the other two. This work is one of the most progressive steps ever made for Parke County agriculture.

How some of the committee members view the situation is shown in these remarks:

SAM DAVIS. The standard of living which we farmers want is one which will permit us to have the same physical comforts and educational standards as are demanded by urban people.

Mr. SINGLETON. We want to avoid having our wooded areas gutted and our relief burden multiplied by people who are thrown out of employment by industrial shut-downs. Any changes resulting from our studies will come voluntarily as a result of education. We are not an enforcement agency and do not believe in dictatorship. It will take 10 years before we see significant results from land-use planning.

Mr. GUTHRIE. Another thing that has grown out of this is that the proper use of land is tied up more with adequate size farm units than was commonly expected. There is some pride and confidence attached to this map that never would be attached to one made by professional workers. It is ours. We know how we made it, how much time we spent, and how sincerely and earnestly we worked. There are 78 of us here to defend it. It is a great step in making people more conscious of the use of land.

Maps, Soils, and Planning

by M. M. STRIKER

THESE things one may hold to be true: That the attainment of the "good" or "best" use of land is desired alike by the farmer and the research worker, that there seems to be a growing emphasis on a secure and more or less self-sustaining farm population, and that the fundamental adjustment is as much between the land and the people as between the people and their products.

And, therefore, the soil scientist will have an essential role in the development of both investigations and interpretations of land-use planning projects and data, on which are based special efforts by all branches of agricultural research to help develop policies looking toward soil conservation and the effective use of land in a system of permanent agriculture. This applies equally to farm and to community planning.

The soil scientist should aid in the study and recommendation of practices that may increase, restore, or maintain the productivity of the soil. He will need to make his suggestions for the most adequate and socially effective use of the land according to soil capabilities and in accordance with the other factors involving the use of land.

The "good" or "best" use of land usually depends upon many factors, or combinations of factors, rather than upon soil characteristics alone. To know that the soil is Miami loam or Hagerstown silt loam is not enough. Yet the soil is probably the most fundamental, most stable and most directly observable factor in agricultural production. Accurate information regarding the external and internal character of the soil is a prerequisite to research in land planning and to land planning itself.

Fortunately for the soil scientist and other students of agriculture, farmers, through trial-and-error, observation, and application, have developed rotations and systems of farming that reveal much about the potentialities of the land. Of course, there are instances in which poor homes, poor crops, soil erosion, and other visible symptoms of poor land use show that farmers have been unable to develop a suitable system of farming.

It is of first importance to study past and present cropping practices on the individual soil types and groups or associations of soil types. Once such observations (supplemented by experimental data gathered either by farmers or by technicians) are thus classified, the information may be used to characterize a particular natural landscape, and then can be carried to other persons living on similar soils, who may be able to come closer to adjustment with their own land resources.

Land Use Planning Under a Democratic System

Practically all farm planning in our country and much of the community planning will necessarily be done by the people on the land. Therefore, much of the experimentation, management, and financing must be handled by farmers, in cooperation with their neighbors and with governmental agencies, if a lasting program is to be realized. Better land use and management will come about, of course, through slow and evolutionary changes after agreement among farmers, community cooperators, technicians, and administrators. This goal of a socially more profitable and better use of land rests both, upon the desire and the ability of the people to keep the land in good condition as a necessary prerequisite to a system of permanent agriculture rather than in anticipation of large immediate material rewards. If a 10- to 25-year view is taken, in many places there is less conflict than is generally supposed between a system of agriculture involving conservation and effective use and a system that gives the greatest material return.

Most agricultural workers feel the need for soil information of varying detail in order properly to plan the use of land. Discussion during the last few years has been not so much on the importance of soil information as on the kind and detail of soil information necessary.

A careful examination of a modern detailed soil map reveals a maze of lines and figures that may be somewhat puzzling. Yet a thorough inspection makes evident to even the uninitiated the prevalence of areas with individual patterns of associated soils, either similar or very different. If one were to take the detailed soil map out to the field and walk with it along a fresh roadcut, by careful observation he could note a great number of soil variations that were not indicated separately on the map. Such a map showing all these variations would be impractical and technically impossible to make.

The value of land for cultivation often depends upon the distribution and pattern of soil types as much as it does upon the location of individual bodies of certain soil types. For example, one might think of a thousand acres of Miami silt loam having a B slope and moderately eroded all in one continuous single area or distributed in small tracts of 10 to 20 acres, in association with Brookston clay loam and Crosby clay loam. Productivity, workability, and "conservability" is considered in relation to cropping practices and tillage methods *by fields*, which sometimes can be modified to take into consideration soil type and phase influences. For planning purposes, both cartographic and categorical generalizations are essential, in order to arrange the detailed information in a way that can be understood clearly and can serve as a guide in developing broad divisions of land according to agricultural capabilities.

FIG. 1 - SAMPLE MAP OF SOIL TYPES AND GROUPS.

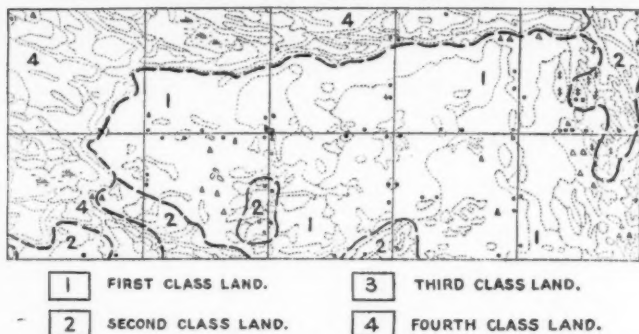
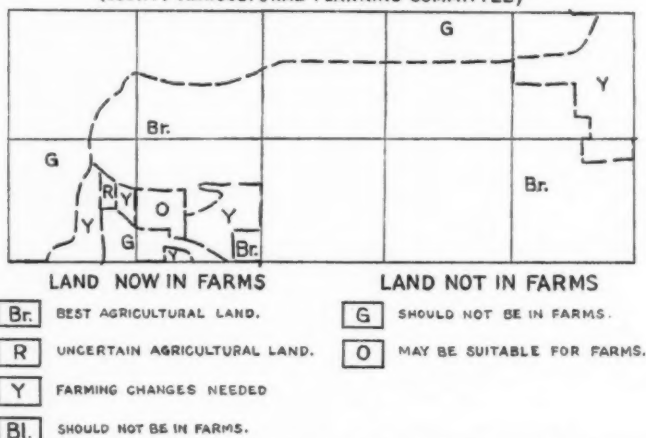
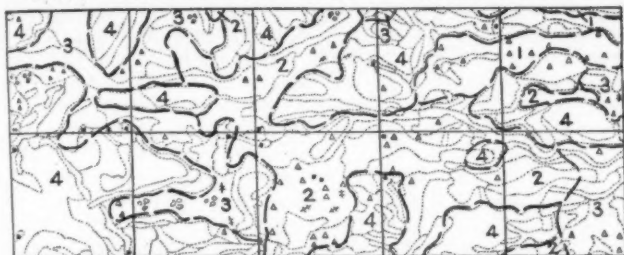


FIG. 2 - PRELIMINARY MAP OF LAND USE CLASSES.
(COUNTY AGRICULTURAL PLANNING COMMITTEE)



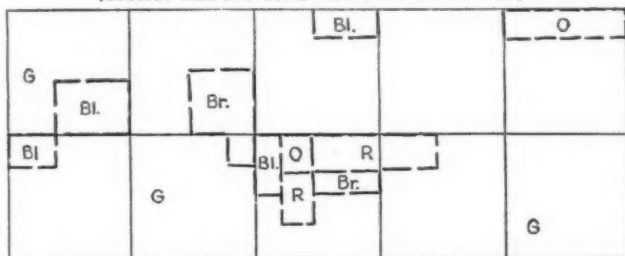
Figures 1 and 3 are reproductions of a modern detailed soil map. The heavy lines are boundaries of soil groups or broad, natural land classes developed by grouping soil types according to their dominant natural characteristics in relation to productivity and responses to management. Figure 1 is a map covering 10 square miles, in which the pattern of soil types is complex; these can be grouped to make a relatively simple map. Figure 3 represents an area of the same size. Here somewhat similar soil types make a different pattern and the same method of grouping results in a more detailed map. Corresponding

FIG. 3 - SAMPLE MAP OF SOIL TYPES AND GROUPS.



- | | |
|-----------------------------|-----------------------------|
| 1 FIRST CLASS LAND. | 3 THIRD CLASS LAND. |
| 2 SECOND CLASS LAND. | 4 FOURTH CLASS LAND. |

FIG. 4 - PRELIMINARY MAP OF LAND USE CLASSES.
(COUNTY AGRICULTURAL PLANNING COMMITTEE)



LAND NOW IN FARMS

LAND NOT IN FARMS

- | | |
|---------------------------------------|-------------------------------------|
| Br. BEST AGRICULTURAL LAND. | G SHOULD NOT BE IN FARMS. |
| R UNCERTAIN AGRICULTURAL LAND. | O MAY BE SUITABLE FOR FARMS. |
| Y FARMING CHANGES NEEDED. | |
| Bl. SHOULD NOT BE IN FARMS. | |

sections of the map drawn by a county agricultural planning committee are shown in figures 2 and 4.

The divisions in figure 2 generally coincide with the soil-group map above it. By using their experience and observations the farmers and local technicians have obtained a similar expression of land use capabilities. The divisions of figure 4 are, however, in marked contrast to the corresponding soil-group map. The undeveloped nature of this area has led to an inadequate portrayal of land-use capabilities as gathered and interpreted by farmers.

Soil Grouping or Land Classification in Midland County

In order to indicate the broad soil areas in Midland County, Mich., Gordon Johnsgard, now a fellow in soils at Cornell University, and the writer combined the 35 soil types into 4 main groups, each of which is made up of soils with somewhat similar internal and external characteristics, and showing similar productivity for the common crops. The grouping was based upon the texture, content of organic matter, and other characteristics of the soil profile and the external or surface drainage. Prof. G. O. Veatch of Michigan State College gave valuable help in developing the grouping.

These soil features are directly related to the productivity of the soils for the crops common to the county. Not only were the soils grouped into these four divisions, but sufficient cartographic generalization was made to reduce the scale of the map from 2 inches to about one-half inch per mile. Individual areas of less than 40 acres of one group were not separated from another group unless there was a considerable contrast between the two groups, as, for example, an area of first-class land within an area of third- or fourth-class land.

The soils of the first-class land are developed from parent materials of relatively heavy texture, have grayish-brown to nearly black plow soils, vary from loam to clay loam textures, and may have good, imperfect, or poor natural drainage. The soils considered as second-class are developed from a layer of material of intermediate texture over a heavy substratum lying at a depth ranging from 1 to 2 feet, have gray or dark-brown sandy loam surfaces and have imperfect or poor natural drainage.

The third-class soils are developed from deposits of sandy material over a clay substratum, at a depth ranging from 2 to 4 feet, have gray or grayish-brown plow soils, and a loamy sand texture. The natural drainage is imperfect or poor. The soils of the fourth-class land are developed from deposits of sand overlying clay at a depth of usually more than 4 feet. The natural drainage varies from good to poor.

County Planning and Maps of Soil Groups

Problem areas are shown in the sections of the county agricultural planning maps which represent the ideas of the local people as to present farming conditions and capabilities for use. If the map does not coincide exactly or in general with the maps of recommended systems of cropping and management practices, as prepared by soil scientists, agronomists, or economists, the reason may lie in the fact that the proposed divisions, as set up by these specialized workers, do not comprehend all the factors with which each farmer or groups of farmers must deal.

The farmer land planner consciously or unconsciously has taken account of many of these and other important features of land management, and has considered their integrated form rather than each factor

individually. In figures 1 and 3 is shown a sample land classification, or perhaps more properly a soil-group map, of Midland County, developed by the soil-survey field party.

A comparison of this map, based largely upon the nature of the soils and productivity, with the land classification or problem area map developed by the county agricultural planning committee, shows the general areas to be similar in kind and location, despite the differences in definition for the two types of maps.

It will be noted that generally where the areas of excellent and good land are isolated or adjacent to areas of poor or fair land, the land classed by the technicians' map as good has been placed by the county committeemen in the poorer class of farm land. In other words, there is a practical, understandable tendency for the farmer to think in terms of farm units rather than small tracts of 40 acres or less. Unless the difference between good and poor cropland is marked by a very obvious soil boundary, the larger areas shown tend to encroach on the smaller areas. The land shown on the soil map as poor or fair is often rated better on the committee map as to productivity, especially if some farmers appear to have been successful in adapting their crops and practices of management to the soil conditions.

External Soil Features Are Fallible Guide

Since they are dealing with problems of existing conditions, the county committeemen also necessarily, perhaps, are guided a great deal by the present land use. This, however, may result in insufficient attention, from the soil scientist's view, being paid to the quality of soil in uncleared areas.

In attempting to coordinate all the factors involved, the committeemen have been forced to rely heavily on the external features of the landscape. The effect of this necessity may be failure to give the weight the technician would to each factor as they proceed from excellent to poor cropland. An example of a factor that might be improperly expressed is the adaptation of potatoes to sandy loam and loamy sand soil types. These soils have narrower or more limited adaptations to the common crops of the area. A system of farming and land management built around potatoes as a cash crop would certainly minimize this limitation.

New crops or new management practices on soil types of limited adaptation would tend also to equalize these differences.

In some places in Midland County the light-textured soils were included with the fair to good cropland, and in other places the same soils were included with the very poor land. This was because no great importance was attached to the relationship of the productivity of the soils to the depth of the sandy surface horizons over clay. Soils having sandy surface horizons underlain by clay, at a depth ranging from 1 to 3 feet below the surface, are rated on the soil map as fair or good,

whereas somewhat similar soils having the clay below a depth of 4 feet are considered poor for cropping purposes.

Many of these relationships are being brought to light as the farmers and technicians compare the results of their work, and as the farmer finds it possible to take the latter's findings into account. Figures 1 to 4 furnish a comparison of the county agricultural planning map and soil-group map.

Naturally, the question arises as to the possible relationships of soils, their distribution and characteristics, to the farmer's present choice of crops and methods. The theoretically ideal relationship between soils and cropping practices is often complicated by the farmers' personal preferences among many possible enterprises, market facilities, and other economic and social factors.

In Midland County many of the factors that might seriously influence this crop-soil relation could vary only within relatively very narrow limits. Market facilities and possible crop choices are reasonably similar throughout the county. Then, too, the general smoothness of the land, relative freedom from accelerated erosion and stone, and similarity of drainage possibilities allow attention to be directed primarily to the internal characteristics of the soil types.

The Agronomic Significance of the Land Classes

In order to study the agronomic significances of the four classes of agricultural land, the county agricultural agent, Charles Crapser, and the author selected 40 owner-operated farms, well distributed over the county, with 10 farms in each of the 4 groups. None of the farms included more than a few acres of cropland, and most of them less than 10 acres of any other land class, although a part of the farm not devoted to crops might have a relatively wide variation as to class.

By selecting owner-operated farms and placing restrictions on only the cropland portion of the farm unit, a more distinct relationship could be obtained and one that would be expected to represent better-than-average farm management. The objective was to see if the classification, based on natural soil groups and productivity, did materially influence and coincide with the farmers' cropping methods and management practices.

The local office of the Agricultural Adjustment Administration furnished the necessary crop records for the years 1935-38. The acreages reflected the crop base from 1924-34 and the variations allowed the farmer under the program since 1935. A plat was drawn for each farm, with the field number and kind of crop indicated in each field for each of the 4 years. The crops recorded were tame hay, tame or rotation pasture, corn, oats, beans, barley, wheat, sugar beets, potatoes, and miscellaneous or other crops.

The average size of each farm is practically identical on all classes of land. The fraction of the farm unit in cropland is about two-thirds in the first two classes of land, and drops to two-fifths and one-third, respectively, in the third and fourth classes. From one-half to two-thirds of the noncropped portion is of the same or better quality than the present cropland in the first three classes. Roads, driveways, farmsteads, gardens, orchards, and other uses account for 5 to 10 acres of the noncrop portion of each farm. These farmers apparently desire to have wood lots, stump pasture, and permanent pasture as a part of the farm unit, regardless of the likely more intensive use of cropping.

Soil Conditions Influence Farm Practices

The shift in the percentage of the total cropland devoted to each crop as one proceeds from the first- to the fourth-class land illustrates the farmer's inclination to adapt his practices to soil conditions, in order to maintain fertility, and to have a more "profitable" use. Field beans yield about 20 bushels an acre on first-class land; 15 bushels on second-class land; 10 bushels on third-class land; and from 5 to 8 bushels on fourth-class land.

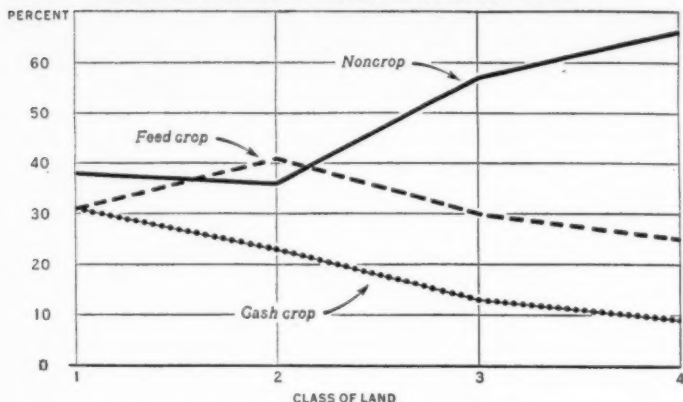
Other crops follow the same general trend under this selected management, with the exception of potatoes, which yield somewhat similarly on land of the first three classes. Potatoes of the best quality, however, are grown on land of the second or the third class. The increased acreage of hay on the second- and third-class lands does not offset the higher yields on the first-class land in terms of total production per farm.

In order to arrive at the real significance of the differences in the farmer's practices on the different classes of land, the crops were grouped into cash and feed crops. The acreage devoted to each of these uses is shown in the accompanying graph.

The shift from cash to feed crops between classes of land shows rather clearly that the type of farming in this county is closely related to land classes, as determined mainly by soil character and productivity. On the first-class land, practically equal areas in the farm unit are devoted to cash crops and feed crops, while on the second-class land there is a larger proportion of feed crops and other soil-conserving or semisoil-conserving crops, with a corresponding reduction in cash crops.

The farmer has found that he must devote more acres to hay and pasture in the rotation and less to beets, beans, wheat, and barley, if soil productivity is to be maintained. Farmers on the third-class land find even longer rotations desirable, with a larger percentage of hay crops and permanent pasture playing a more important part. On land of this class, beans and potatoes are the main cash crop, and most of the other crops are used mainly for feed. More than two-thirds of the crop proportion of the farms is devoted to growing feed crops. The

PERCENTAGE OF AVERAGE FARM UNIT ON EACH LAND CLASS
DEVOTED TO CASH, FEED, AND NONCROP USES



fourth class merely shows more limited use possibilities insofar as the common crops are concerned.

The first-class farms might be designated as general cash-crop and livestock farms; the second, as livestock farms with limited cash crops; the third, as livestock, cash-crop, and subsistence farms; and the fourth, as subsistence and livestock farms. Assuming a certain amount of fair, good, or excellent cropland as necessary to maintain a farm family with ordinary living comforts and income, it would seem that the marginal line under present types of farming is between the second and third classes of land, while the submarginal line is between the third and fourth classes.

Differences in Sizes, Crops, and Rotations

These investigations also show marked differences between the various classes of land, as to the size, shape, and number of fields, the selection of crops for particular soil types, and the irregularity and length of rotations.

Practices recommended for the improvement and maintenance of soil fertility and for more effective use would need to be based mainly upon the soil-crop relationships, as the experience of the farmers has already demonstrated. Experimentation and research by either farmers or technicians are oriented to the soil type and groups and can be used as a basis for planned testing of farm practices under actual field conditions. These data of cropping use and management can be better interpreted, classified, and applied to these or similar cases.

The close relationship between these soil groups, or land classes, and the kind, distribution, and acreage of crops would indicate the importance of the use of the soil map as a basis for a better understanding of present and future land problems. The soil data, backed by the experience of the farmers, form a satisfactory basis for planning changed uses of poor lands and the bringing into production of the better lands that are now uncleared in Midland County. It is doubtful if either the farmer or planning technician has sufficient information definitely to shift the land use and land management or predict the land-use capabilities in marginal areas where the land problems are usually most important. The use of improved farming techniques or new crops might upset the best laid plans, and these last two conditions are just beginning to be tested under actual farming conditions, where population pressure on the land is a distinct problem.

Such a classification map, based on soil types or groups of soil types and their responses to management, certainly will have much to contribute toward a more comprehensive land classification that would take into account the total experience of farmers and the total contribution of the technicians.

Contributors to this Issue

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The Migrants

Data for this article, the third of a series concerning problems created by migration into the Pacific Coast States, were obtained from a questionnaire submitted to school children of families who had moved into Washington, Oregon, and Idaho since 1929. Somewhat more than three-fourths of the public schools in the three States cooperated in the survey, a part of a comprehensive investigation by several agencies under the leadership of the Bureau of Agricultural Economics and the Farm Security Administration, Region XI.

III. Migration to the Pacific Northwest, 1930-1938

by WILLARD W. TROXELL and W. PAUL O'DAY

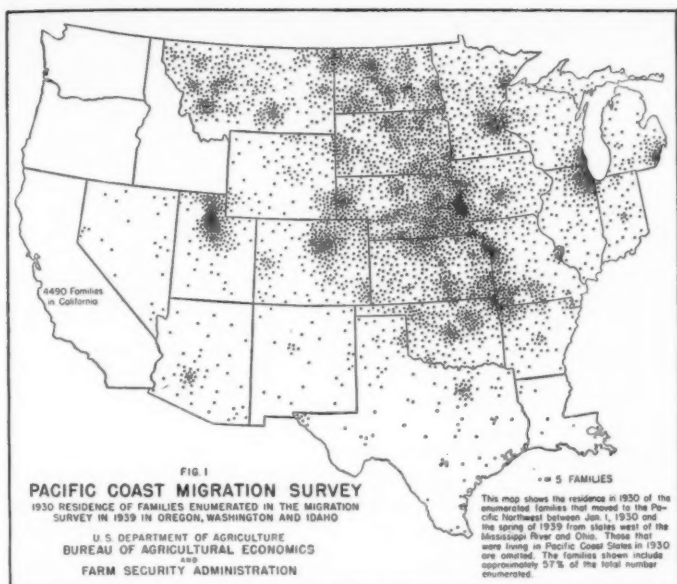
MIGRATION built the Northwest. Each year since the time of the pioneers the Northwest has attracted many ambitious Americans seeking to better their condition.

Most have stayed to establish new homes. Others have drifted on. The result has been a continuous and rapid increase of population. In 1930 only 44 percent of the inhabitants of the Northwest had been born in the region.¹

Exact measures of past migrations do not exist; they can only be inferred from census data. Estimates have been made which indicate that approximately 640,000 persons who were living in Oregon, Washington, and Idaho in 1930 had moved into their respective states during the preceding decade, and about 440,000 of these had come into the Northwest from other areas.² Approximately 290,000 of the persons who were living in the Northwest in 1920 moved out during the decade; hence the *net* gain from migration was about 150,000. From 1900 to

¹ The Northwest refers herein to Oregon, Washington, and Idaho.

² These estimates will be part of a forthcoming final report of this study. The authors wish to acknowledge the cooperation of George B. Herington, Labor Relations Representative, FSA, Region XI, in this study. They involve the basic assumption that the outward stream of migration from a State is composed of natives and nonnatives of the State in the same proportions as in the resident population of the State. The calculated net migration is approximately the same, State by State, as that given in Preliminary Analysis of Population Data, Pacific Northwest States, by James E. Maxwell, Pacific Northwest Regional Planning Commission, Portland, Oreg. Migration estimates for Oregon are also given in Migration into Oregon, 1930-1937, by V. B. Stanbery, Oregon State Planning Board.



1910, when the lumber industry of the Northwest was developing rapidly, the net gain was much larger than in 1920-30.³

Regarding the number of persons who moved into the Northwest during the 1930's, no census information is available, but the present migration survey data provide a basis for a rough estimate. The survey enumerated 45,211 families but did not reach everybody eligible for inclusion. It has been estimated that the enumerated families represent approximately 63 percent of all that were eligible for inclusion; hence it appears probable that there were in the Northwest in the spring of 1939 some 72,000 families that entered their States after 1929 and had children in the public schools at the time of the survey.

Besides, there were unknown numbers of unattached single persons and families without school children. It seems reasonable to assume that the proportion of school children in the migrant group is about the same as in the population of the areas from which these people

³ *Internal Migration in the United States*, by C. W. Thornthwaite, University of Pennsylvania Press, 1934.

came. On this basis, it is estimated that approximately 620,000 persons moved into Washington, Idaho, and Oregon after 1929 and were still living there in the spring of 1939.⁴ This figure does not, of course, represent net population increase, since births, deaths, and departures from these States are not taken into account. One-quarter of the families enumerated were living in Oregon, Washington, and Idaho in January 1930 (table 1). The probable addition to the 1939 population of these States due to inward migration from outside the area after 1929 was, therefore, roughly three-quarters of 620,000, or about 460,000 persons. This is about 16 percent of the 1930 population. The number moving out of the Northwest in this period is not known.

The calculated migration—460,000 persons—into the Northwest in the period of a little more than 9 years from 1930 to early 1939 is very little more than the 440,000 estimated as moving into the area in the 10-year period 1920 to 1930. These estimates are to be considered as rough measures only, but they indicate that the movement was of approximately the same magnitude in the 1930's as during the preceding decade.

Sources of the Migration

An outstanding fact revealed by the residence data is the large movement from State to State within the Northwest. One-quarter of the enumerated families were living in the Northwest in 1930 and subsequently moved to other States in the area, or out and back again to the same State (table 1). The interchanges of population between these three States resulted in gains for Washington and Oregon at the expense of Idaho. There was also a large interchange between California and the Northwest. More of the families studied came from California than from any other State. Preliminary samples of the migration survey and the border count in California show large numbers moving southward from Oregon and Washington.⁵

Next to the Pacific Coast region the Great Plains States were the principal sources of migration. The Pacific Northwest has drawn large numbers from the northern part of the Plains, but relatively few from the southern part. This is in marked contrast to the situation in California, where Oklahoma and Texas were the most important sources.

⁴ There are approximately 4.7 persons, on the average, to each child enrolled in public schools in the areas which contributed most heavily to the Northwest migration. It is calculated that the 72,000 families eligible for inclusion in the survey contained about 131,000 school children, hence the total group that migrated would be approximately $4.7 \times 131,000$, or 620,000 persons.

⁵ "Recent Migration to the Pacific Coast," by Davis McEntire and N. L. Whetten. *Land Policy Review*, September-October 1939.

TABLE 1.—Families enumerated in the Northwest migration survey, by regions and States of residence in January 1930

Region and State of residence in January 1930	Residence in 1939				
	Total, 3 States		Wash- ington	Oregon	Idaho
	Number	Percent	Number	Number	Number
All cases.....	45,211	.....	18,997	19,421	6,793
Residence known.....	42,049	100.0	18,304	17,178	6,567
Northwestern States.....	10,607	25.2	4,727	4,327	1,553
Washington.....	4,267	10.1	762	2,729	776
Oregon.....	3,493	8.3	2,473	582	438
Idaho.....	2,847	6.8	1,492	1,016	339
California.....	4,490	10.7	1,777	2,360	353
Southwestern States.....	1,458	3.5	297	418	743
Utah.....	1,042	2.5	173	214	655
Arizona.....	300	.7	94	155	51
Nevada.....	116	.3	30	49	37
Northern Great Plains.....	10,543	25.0	4,744	3,909	1,890
Nebraska.....	2,954	7.0	896	1,354	704
North Dakota.....	2,411	5.7	1,354	825	232
Montana.....	2,299	5.5	1,293	568	438
South Dakota.....	2,146	5.1	946	926	274
Wyoming.....	733	1.7	255	236	242
Southern Great Plains.....	5,810	13.8	2,073	2,709	1,028
Kansas.....	2,096	5.0	728	961	407
Colorado.....	1,630	3.9	583	725	322
Oklahoma.....	1,369	3.2	505	666	198
Texas.....	551	1.3	207	268	76
New Mexico.....	164	.4	50	89	25
North Central States.....	5,960	14.2	2,898	2,372	690
Minnesota.....	1,332	3.2	729	518	85
Missouri.....	1,248	3.0	533	435	280
Iowa.....	1,112	2.6	465	498	149
Illinois.....	695	1.6	345	281	69
Wisconsin.....	607	1.4	334	245	28
Michigan.....	490	1.2	264	185	41
Ohio.....	240	.6	121	100	19
Indiana.....	236	.6	107	110	19
South Central States.....	575	1.4	241	226	108
Arkansas.....	479	1.2	198	181	100
Louisiana.....	51	.1	22	25	4
Mississippi.....	45	.1	21	20	4
Southeastern States ^a	508	1.2	296	152	60
Northeastern States ^b	760	1.8	392	315	53
Overseas and foreign countries.....	1,338	3.2	859	390	89
Unknown.....	3,162	.....	693	2,243	226

^a Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Kentucky, Tennessee.

^b New England States, New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, West Virginia.

An overwhelming majority of the migrant Oklahomans went to California, and there appears to be a strong tendency for migrants from the Northern Plains to move straight westward.

The map (fig. 1) shows the 1930 residence of the enumerated families who lived west of the Mississippi River and Ohio. It indicates large numbers in Nebraska, the Dakotas, and Montana, and more strikingly, concentrations around the large cities. Clusters of dots mark the Salt Lake area, Denver, Omaha, Minneapolis and St. Paul, Duluth, Chicago, and Detroit.

In general, the Northwest States drew larger numbers from nearby States than from more distant ones. Less than one-tenth of the total came from east of the Mississippi River. Foreign countries were not an important source of migration, although there were many Canadians in the group.

An analysis of the residential shifts that took place after 1930 shows that between two-thirds and three-quarters of the enumerated families moved directly to the States where they were living in 1939. The others made one or more intermediate moves in various directions, with some tendency to concentrate in the States close to their final destinations. A few families moved into California before going to the Northwest, but the evidence does not support the idea that the inflow into the Northwest has been in large part the backwash of a heavy California-bound movement.

Periods of the Migration

The movement to the Northwest reached a peak in 1936 and 1937, as is indicated by the graph in figure 2. More of the families enumerated in Washington arrived in 1937 than in any other year, while for Oregon and Idaho the peak year was 1936 (table 2). In all three States there was a sharp reduction in the incoming movement in 1938. Large volume in 1936 and 1937 followed by a sharp reduction in 1938 characterized the entire westward migration, the movement into California showing the same features.* The droughts of 1934 and 1936 followed by a return to normal rainfall in the Plains were probably the underlying cause, but the movement was not limited to farm families.

There was a marked difference between the timing of the migration from the Pacific Coast States and other sources. The graphs in figure 2 show a fairly steady upward trend from 1930 to 1938 for arrivals from the Pacific States, while the numbers coming from other areas were much greater in 1936 and 1937 than in other years. The steady rise of the curve for the Pacific Coast States should not, however, be con-

* McEntire and Whetten. *op. cit.*

sidered to measure a steadily increasing *inflow*, because the numbers cover only families that were still in the State in 1939 and take no account of those who moved both in and out in the period. This residue of the inflow is likely to be relatively less for the arrivals of earlier years because of the greater time available for depletion of the ranks of the earlier arrivals. Furthermore, it is likely that there has been an under-enumeration of the earlier arrivals because many of their younger children were born in the State that they were living in at the time of the survey, and for that reason may not have responded.

TABLE 2.—*Families enumerated in the Northwest migration survey, by year of arrival in the States of 1939 residence*

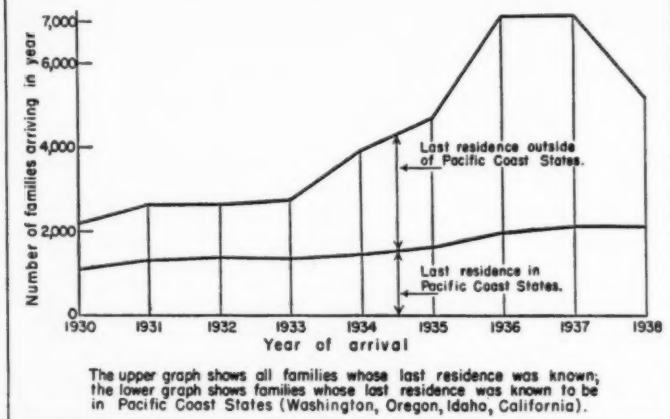
Year of arrival	Total, 3 States		Washing- ton	Oregon	Idaho
	Number	Percent	Number	Number	Number
All years.....	45, 211	100. 0	18, 997	19, 421	6, 793
1930.....	2, 346	5. 2	1, 069	908	369
1931.....	2, 844	6. 3	1, 219	1, 170	455
1932.....	2, 935	6. 5	1, 226	1, 249	460
1933.....	3, 053	6. 7	1, 314	1, 292	447
1934.....	4, 382	9. 7	1, 829	1, 859	694
1935.....	5, 337	11. 8	2, 141	2, 335	861
1936.....	8, 088	17. 9	3, 250	3, 615	1, 223
1937.....	8, 167	18. 1	3, 550	3, 528	1, 089
1938.....	6, 389	14. 1	2, 677	2, 804	908
1939 *.....	1, 075	2. 4	498	393	184
Unknown.....	595	1. 3	224	268	103

* First 4 months.

The actual inflow from the Pacific States was probably much more nearly constant from year to year than the data indicate, but there was undoubtedly a sharp rise from 1933 to 1936 in the migration from other areas, especially the Great Plains.

From this evidence, the migration appears to have had three distinct phases. During the first phase, from 1930 through 1933, approximately half of the incoming people came from the Pacific Coast States. The years from 1934 to 1937 were characterized by a rapidly increasing movement from the Plains States, bringing in relatively large numbers of agricultural workers. This is the drought phase. The data for the year 1938 show signs of a return to the characteristics of the pre-1934 migration.

Fig.2. Families enumerated in Northwest Migration Survey, by year of arrival in state of 1939 residence.



Areas of Settlement

In general, the most populous areas attracted the most newcomers. The areas of greatest concentration were Portland and the Willamette Valley, the Puget Sound region, the Yakima Valley, Spokane, the Snake River Valley, and the northern counties of Idaho. The 10 leading counties, ranked according to number of enumerated families, are Multnomah, Oreg. (Portland); King, Wash. (Seattle); Spokane, Wash.; Yakima, Wash.; Pierce, Wash. (Tacoma); Marion, Oreg. (Salem); Lane, Oreg. (Eugene); Snohomish, Wash. (Everett); Clackamas, Oreg.; Jackson, Oreg. (Medford).

In these 10 counties were 43 percent of the enumerated cases, and 50 percent of the population of the three States. The part of Washington and Oregon lying west of the Cascade Mountains included 59 percent of the survey families and 63 percent of the population.

While the geographical distribution of the newcomers is generally similar to that of the resident population, there are some differences. The impact of the migration, as measured by the ratio of newcomers to resident population, was somewhat greater in the rural areas and small cities than in the large cities. Table 3 shows the distribution of the enumerated families and the 1930 population by size of community.

Because the residence classification of the survey cases was on a school district basis and the urban districts usually included areas outside the

corporate limits of the city, the numbers classified as living in the cities are somewhat inflated. The percentage distributions shown in table 3 are, therefore, not strictly comparable, but they do serve to indicate that the ratio of newcomers to resident population was lower in the large cities and higher in rural areas and small cities.

TABLE 3.—*Families enumerated in the Northwest migration survey and percentage distribution of the 1930 population, by residence classification**

Residence classification	1930 popula- tion	Families enumerated in migration survey				
		Total		Wash- ington	Oregon	Idaho
	Percent	Number	Percent	Number	Number	Number
Total.....	100.0	45,211	100.0	18,997	19,421	6,793
Cities over 100,000.....	30.0	8,032	17.8	3,911	4,121	.....
Portland.....	10.2	4,121	9.1	.....	4,121	.....
Seattle ^b	12.3	1,491	3.3	1,491	.....	.....
Spokane.....	3.9	1,443	3.2	1,443	.....	.....
Tacoma.....	3.6	977	2.2	977	.....	.....
Cities 10,000 to 100,000.....	11.0	6,339	14.0	3,382	1,988	969
Cities 2,500 to 10,000.....	9.8	7,873	17.4	2,289	2,921	2,663
Rural areas.....	49.2	22,967	50.8	9,415	10,391	3,161

* Residence classification was based on the school district attended by the youngest child in the family. The school districts were classified according to the 1930 population of the largest city in the district. Those containing no city over 2,500 population are rural.

^b Because of a difference in the method of conducting the survey in Seattle, the enumeration there was less complete than in most other areas.

Occupational Groups and Occupational Shifts

Nearly all occupations from unskilled labor to the most highly trained professions were represented in the group studied.⁷ In fact, this group appears to have been made up of a fair cross section of the occupational classes of the areas from which these people came. This is shown in the bar charts of figure 3a, in which the occupational group distributions

⁷ "Former occupations" were classified from the children's replies to the question, "What kind of work did (your father) do before he came to Washington (Oregon, Idaho)?" "1939 occupations" were classified from replies to the question, "What kind of work does your father do right now?" Occupational group classifications were based on Alba M. Edwards' "A Social-Economic Grouping of the Gainful Workers of the United States—1930." Grouping of census data was taken from this publication. Farmers and farm laborers have been grouped together because the children's replies were not specific enough to separate them.

Fig.3a-Percentage distribution of male heads of enumerated families by former occupational groups by regions of last residence; and comparison with distribution of all gainfully occupied males in those regions according to 1930 census.

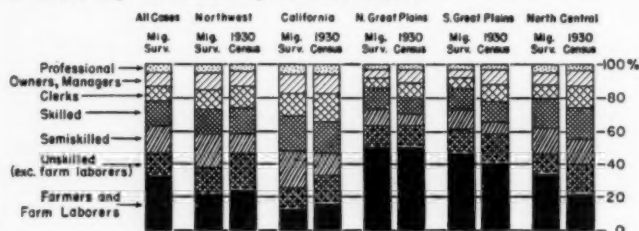


Fig.3b- Male heads of enumerated families, by 1939 occupational groups and former occupational groups.

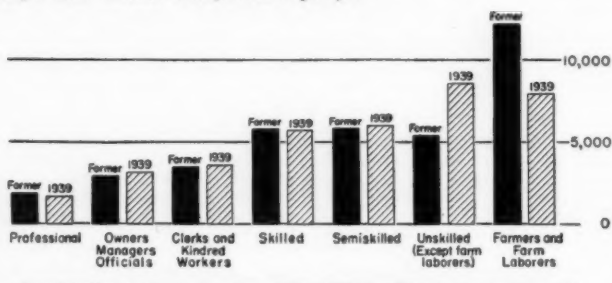
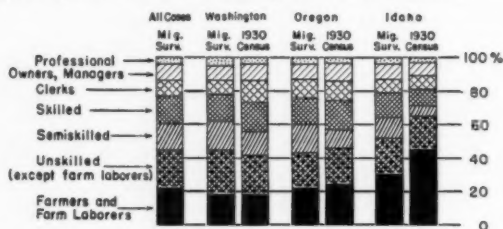


Fig.3c- Percentage distribution of employed male heads of enumerated families by 1939 occupational groups, by state of residence in 1939; and comparison with distribution of all gainfully occupied males according to 1930 census.



of the survey cases from five regions are compared with the distributions of the gainfully employed male population of those regions.

The children of 12,142 families reported that their fathers had been engaged in farm work before coming into the State. This was about one-third of the cases for which the previous occupation of the father was reported. For the groups from the Northwest States, California, and the Northern Plains the proportion of agricultural workers (farmers and farm laborers) was very nearly the same as the proportion of such workers in the male working population of those areas (figure 3a).

In the groups from the Southern Plains and the North Central States the proportion of farmers and farm laborers was somewhat greater than in the resident populations. The migration from the latter region was largely from the agricultural areas of Minnesota, Iowa, and Missouri.

Among the nonagricultural occupations the white-collar classes were somewhat under-represented in the survey group, while manual workers, especially the semi-skilled class, were somewhat overrepresented.

There is also a marked similarity in the grouping of the occupations pursued in 1939 by the employed heads of the enumerated families and that of the male population of the Northwest States as indicated by the 1930 census (figure 3c).

This is about what one would expect, since the opportunities for the employment of newcomers in most types of work are likely to be roughly proportional to the numbers already employed in such work. The similarity is not so close for the Idaho cases as for Washington and Oregon. In Idaho the agricultural group was unduly small, probably because a significant proportion of rural schools did not cooperate in the study.

The process of adaptation of the newcomers to the occupational demands of their new environment involved a considerable amount of shifting from one occupation to another. The number working in agriculture in 1939 was considerably less than the number reported to have been working at it before coming into the State (figure 3b).^a The unskilled labor group, in which W. P. A. was an important source of employment after the migration, was larger in 1939 than before the migration.

It is not to be concluded from this, however, that all of the members of these groups were able to find employment at their usual occupations. There was a great deal of shifting about between all groups, the greatest amount taking place between the unskilled labor and farm groups.

In reply to the question, "What kind of work is your father doing right now?" some of the children reported their fathers to be on W. P. A. or as "not working." The "not working" replies cannot be used as a

^a In this connection, it should be remembered that the survey was made when the demand for agricultural labor in the Northwest was at a seasonal low. This does not, however, affect the comparison with 1930 census data, which were also collected in the spring.

measure of unemployment for the group as a whole, since a direct question on unemployment was not asked and an indication of the length of period of unemployment is required for an appraisal. Also, it is probable that some children whose fathers were working on W. P. A. jobs failed to note the fact, because they were not asked directly whether he was on W. P. A. However, a sufficient number of these replies were received to warrant some internal comparisons, and it is probably safe to regard the number reported on W. P. A. as a minimum figure.

Of the heads of families enumerated, 2,659 were reported to be not working when the survey was made and 3,502 were on W. P. A. These two groups make up about 14 percent of the total cases. Former unskilled and agricultural workers were the two groups that contributed most, both absolutely and relatively, to the W. P. A. and unemployed classes (table 4). About 18 percent of the agricultural group and 25 percent of the unskilled, as compared to 10 percent of the other groups, were reported to be on W. P. A. or unemployed in 1939.

TABLE 4.—*Male heads of families enumerated in the Northwest migration survey who were unemployed or on W. P. A. in 1939, by former occupational groups*

Former occupational group	W. P. A.		Unemployed	
	Number	Percent of occupational group	Number	Percent of occupational group
All groups.....	3,502	8.1	2,659	6.2
Professionals.....	25	1.4	44	2.4
Owners, managers, officials.....	66	2.2	120	4.1
Clerks and kindred workers.....	99	2.9	121	3.5
Skilled workers and foremen.....	367	6.4	325	5.6
Semiskilled workers.....	464	8.0	343	5.9
Unskilled workers (except farm laborers).....	805	15.0	538	10.0
Farmers and farm laborers.....	1,313	10.8	890	7.3
Unknown.....	363	6.1	278	4.7

A break-down of the unemployed cases by year of arrival in the State shows a slightly higher proportion among the 1934 to 1938 arrivals than earlier groups. This is a reflection of the greater number of agricultural workers arriving in these years. The 1938 arrivals had the highest proportion unemployed in 1939, but only a few of these late-comers were on W. P. A., probably because of residence requirements affecting eligibility for certification.

As measured by the proportion unemployed and on W. P. A., the unskilled labor and agricultural groups appear to have been the least

successful in establishing themselves in their new economic environment. Public policies for relieving distress and aiding in the absorption of newcomers into the economic life of the community should, therefore, be directed largely toward the needs of these groups.

The trek to the Northwest in recent years is a continuation of an historic movement. It is not a new phenomenon, nor an old one greatly intensified. But the circumstances surrounding it have forced it on public attention. The facts suggest that possibly the solution of present difficulties will be found to lie not in a diminution of the incoming stream of people, but in the further development of resources and new opportunities for employment.

COMMUNICATIONS

SIR:

As the Water Facilities Program goes into its second winter, I should like to direct the attention of readers of the *LAND POLICY REVIEW* to the accomplishments of the program in its first full year of operations. This will follow up an article entitled "Water for the West" in volume I, No. 3 of the *REVIEW*.

On the map of the United States a great rectangle, bounded by a line from North Dakota to Washington State to California to Texas and back to North Dakota, is being spotted with new Water Facilities areas. Policies and procedures have been worked out, matured and modified with experience; areas have been selected and many of them already carefully planned. Now the actual installation of various types of water facilities is gaining momentum.

As of November 1, 1939, 56 areas had been authorized for both planning and operations, comprising 147,000 square miles in all 17 arid and semiarid Western States; 76 additional areas had been authorized for planning, involving 84,000 square miles covering parts of all 17 States; 116 counties, in 15 of the States, had been selected for the installation of demonstrational facilities; 185 separate projects had been completed, including 89 Stock watering projects, 90 Irrigation, 6 other; 580 projects had been authorized in all, benefiting 887 families and including 219 Stock watering projects, 292 Irrigation, 69 other.

Of the Government's direct cost for these 580 projects, 92 percent is expected to be repaid. For 141 of them, farmers are to receive technical assistance only in building their facilities without public financial aid.

Covering 60 percent of the Nation's area, the 17 Western States normally receive less than 42 percent of the total precipitation. Much of this falls in places (on mountain tops) or under circumstances (in cloudbursts) which enter it not immediately available for agriculture.

In this land of extremes and variations, dripping mountains overlook arid plains; flood waters carry away soil long pulverized by drought. In the words of the President's Great Plains Committee, "The best that can be done is to regulate the varying supply [of water] at our disposal, and to adjust the land and water economy to that supply." Accordingly, one of the Committee's recommendations was that attention be given to small water developments, in order to make fuller use of the water. The study confined itself to the Great Plains, but the findings apply to the whole region of undependable rain. Eight months after the Committee's report the Water Facilities Act was passed.

The Water Facilities Program attacks one aspect of a larger problem. It should be thought of as one means among many of attaining better land use. The Water Facilities Program is therefore associated, in planning and in operations, with other Federal land-use programs. And it makes, in the West, its particular contribution to the general objective of helping "those who use the land to achieve stability of income, stability in the use of our basic land resource, low-cost production and distribution, and the widest possible consumption of our abundant production," in the words of E. H. Wiecking.

Non-Federal agencies also are concerned with the work on Water Facilities. State and county land-use planning committees, State water departments and State agricultural colleges all have something to contribute toward the formulation and realization of the program.

If Water Facilities work helps toward better use of the land, it should help the work of other agencies and programs which aim at the same goal. Changes in type-of-farming, as from soil-depleting cash grain to soil-conserving grass and beef production, may be made possible by a system of stock ponds.

Ranch reorganization in the Great Plains, as sometimes recommended by county land-use planning committees, may call for irrigation of feed-crop land. Range restoration may be furthered by new stock-water developments which allow the cattle to graze more evenly. This in turn may result in preventing erosion and so promote the conservation of resources of soil and vegetation.

The land-use problem is a whole bundle of problems and many instruments must be used in helping farmers make the appropriate readjustments.

—RAY MILLER, *Office of Land Use Coordination.*

[Letters and other contributions to this new department are invited.—The Editor.]

Group Action and Progress

by J. ROY ALLGYER

IT was early one afternoon during the first week in December when we arrived at Jim Smith's farm near Halifax, Va. With me were several other representatives from the Washington and regional offices of the Farm Security Administration. We had arranged an informal meeting with Mr. Smith and some of his neighbors who had joined with him in obtaining a community service loan from our agency. Eight of them, including Mr. Smith, had gathered to talk with us. (His name is not Smith; I use that for narrative purposes.)

This was one of several similar meetings conducted that week in North Carolina and Virginia to find out just how much the participants understood about the establishment and operation of community services and to what extent these groups might be used as a nucleus in carrying out a supervisory and educational program on cooperatives. More than 225,000 families now participate in the 11,500 group services of the Farm Security Administration.

Earlier in the year, Smith had obtained a tenant purchase loan to buy a farm of his own. When the county supervisor was helping him draw up his farm plan, they realized that some heavy equipment was needed, including harvesting machinery, which Smith alone could not afford to buy. Knowing that other farmers in the community needed the same equipment, Smith got 11 of them to join him in applying for a community service loan to purchase a tractor, disk harrow, plow, and combine. The agreement stipulated a charge of \$1.25 an acre for plowing and harrowing. The fee for harvesting small grain was \$3 an acre, while the charge for harvesting lespedeza was at a rate not to exceed 40 per cent of the crop. The latter charge depended upon the yield. A total of 150 acres was signed up for the service. With the volume of participation required for sound operation and liquidation of the loan assured, the application was approved for a loan of \$1,165, with Smith as master-borrower.

Cooperation Lightens Many Problems

Although the 11 neighboring farmers were all participants in the service, this was the first time they had been called together as a group. After introductions, someone suggested that because of the cold, raw wind the nearby tobacco shed would be more comfortable for our discussion than the house. Everyone agreed. There were no formalities. We started talking about matters like rehabilitation loans

and community and cooperative service loans. The subsequent discussion brought out so many mutual problems and helpful suggestions that the group decided much could be gained from future meetings to discuss the operation of their particular service or other needs which they might have.

The meeting furnished a concrete illustration of what the group can do to iron out questions or misunderstandings. One member reported that Smith had missed harvesting considerable seed because the machine had not been set sufficiently low to cut the seed. In reply, Smith pointed out that he had been unable to set the cutter blade as low as he would have liked because of numerous small rocks in the field. Someone suggested that the rocks be picked up and hauled away, but it seems there were too many of them and it would require too much work. Someone else suggested that perhaps he could use a roller to level off the ground before seeding. Then the operator of the combine could cut the lespedeza closer to the ground.

During this discussion, several men expressed the opinion that a heavy roller would be a valuable piece of equipment on their farms. Their land also had stones which had interfered, or would interfere, with the harvesting of small grain or seed. If they were to grow grain crops, some way should be found to meet this difficulty.

Savings in Work, Seed, Harvests

The talk about preparing the seedbed led to the question of what equipment had been used to plant the seed. The replies showed that for the most part the seed had been broadcast. Then we asked about the difference in yield between broadcasting and drilling grain. Some thought it would be at least 5 bushels an acre. Others thought it would be 8 to 10 bushels. The Virginia Experiment Station, a former county agent said, reports that an average increase of 10 to 20 percent could be expected in favor of the drilled grain. There is also a saving in the amount of seed used, a half bushel an acre being a conservative estimate.

When we asked if drills or seeders were available in the community, one man replied that there were a few old drills but that he would rather broadcast his grain than bother with a worn-out piece of equipment. We suggested that this group, or part of the group, get together and work out a drill or seeding service, pointing out that the difference in cost of seed and yield should pay for it within a limited time. Several members felt this would be a worth-while service.

We next inquired about the operation of the combine. One farmer reported that he had saved 5 acres of wheat; another 8 acres, besides his entire crop of lespedeza. One man said that he never would have been able to get any one to thresh his 3 acres of wheat; in fact, he

would have had to cradle it or borrow a mower to cut it—and would still have had the problem of finding someone to thresh it.

There was general agreement that Smith had been a satisfactory operator and had lived up to his part of the contract. As a matter of fact, Smith had a request from a nonparticipating neighbor to cut 25 acres of lespedeza, but he refused because the acreage he had contracted for with the participants in the group service was enough to keep him busy during the harvesting season. The farmers who had small acreages seemed to appreciate Smith's honesty in living up to his agreement.

Joining Forces for Better Farming

The discussion of harvesting grain and lespedeza brought up the question of growing only tobacco. Prices last year were low and the men admitted that if they were to succeed in growing diversified crops they would have to have the necessary equipment.

They said since they had been assured of a harvesting service they saw their way clear for the first time to plant other crops. Everyone who had grown wheat was assured of a flour supply for his family. This meant that there would be no cash expenditure for the purchase of flour. The wheat would be taken to a nearby mill and for a small charge it would be ground into flour.

The story about saving the lespedeza seed was like that of wheat. Lespedeza had been harvested for the first time by a number of these farmers who had small acreages. This meant some additional cash income after keeping out sufficient seed for use on their own farms.

A question was raised about the proper cleaning of seed and this, of course, would apply to both wheat and lespedeza. We learned that most of the lespedeza was offered for sale without being cleaned, which usually meant considerable dockage in price and often resulted in dissatisfaction and controversy. Several of the men were interested in providing themselves with seed cleaning and treating services, and thought the matter should receive further consideration.

An inquiry regarding the harvesting of hay crops revealed an absence of adequate haying equipment, such as mowers and rakes, in the community. It became obvious that the availability of proper haying equipment would encourage the growing of hay crops necessary for the conservation and building up of the soil, and for livestock feed.

Our next question was about the kind of seed that had been used. It developed that the seed corn which had been grown represented an old variety, the name of which no one knew. It had been grown on the same farm year after year, with not too much care in its selection to start with.

Education and Supervision Through Group Interest

Our suggestion was that one or two of the best farmers in the group could purchase good certified seed of known value and variety, plant it, and produce a quantity that the other farmers could purchase as seed at the close of the season. Better still, each participant could buy a small quantity of seed for his own use. This would be particularly appropriate with small grain. With the assurance of a combine service, each one of them would have a sufficient amount of good seed available for his entire seeding the following year.

After talking with these eight farmers for an hour and a half it was seen that although one service is now operating in the community, there is actual need for at least another half dozen or more. Even the F. S. A. county supervisor gained more appreciation of the value of the group services. He realized he had only made a beginning when he helped Smith to set up the combine service, and said he saw an excellent opportunity for carrying on a program of education and supervision, not only through this group but also through other similar groups in a county.

The conclusions that can be drawn from this one meeting in a tobacco shed may be summarized thus: Farmers in similar circumstances are willing to come together to talk over their mutual problems; when an opportunity is given to discuss their needs, the group becomes interested and may be willing to do something about supplying the services needed; the thousands of similar groups established throughout the United States provide an excellent medium through which an intensive educational and cooperative program can be conducted.



Books

AGRICULTURE IN MODERN LIFE. By O. E. Baker, Ralph Borsodi, and M. L. Wilson. Harper and Brothers. New York. 303 pp. 1939. illustrated.

"One new economic factor or technological device brought into the agricultural pattern may cause a complicated series of changes throughout every phase of farm life. The millions of phases of the rural cul-

tural pattern are delicately balanced in an intricate interrelationship. If one thing is disturbed, the whole pattern is forced temporarily out of balance; when finally equilibrium is regained, the complexion of the whole has changed."

This quotation from "Agriculture in Modern Life" orients the situation in rural welfare and rural culture with which the three authors of the book are concerned and indicates the problem for which an answer is sought.

For two centuries the pattern of farm life has been subjected to the impact of fast-moving technological change. Improvements in transportation, the development of new markets, expansion of industries, the opportunities available for surplus farm population, and the development of power and machines for use on farms all had a bearing on the change from a self-sufficing, rugged type of agriculture, that offered few physical comforts but held a high degree of security, to one in which production for sale predominates, and offers more of the attractions of urban life but lacks the economic security of the earlier years.

The adjustment to an industrial world, the encroachment of urban ideals on the established pattern of rural culture, is a matter of primary concern of the authors. The basis for this feeling of uneasiness is not the same. There is little duplication in the three discussions in the volume but the conclusions and the suggestions for correcting the situation are strikingly similar.

The first section, *Our Rural People*, contributed by Dr. Baker, provides the background for a discussion of rural-life problems. Dr. Baker singles out two sources of grave concern, both of which originate in the maladjustment between people and their environment. These are the gradual loss of land ownership and the increase of farm tenancy and the declining birth rate.

The drift of wealth to urban centers, the transfer of land ownership from rural people, is one factor responsible for the decreasing share of the agricultural income received by farmers, and for increasing rural poverty.

To Dr. Baker, however, the social and political implications are more important than the purely economic ones. The impact of technology, science, invention, and mechanical power has been to destroy the traditional familistic rural culture. With an increasing dependence on industrial and commercial life and the adoption of urban standards, the consequences of a rapidly declining national population to a debt-burdened agriculture debt would be serious.

A return to the familistic culture and a widespread ownership of land would correct or diminish the bad effects of certain current trends,

namely, low prices of farm products, resulting from continued production in the face of a declining or stationary population; overvaluation of land, increasing mortgage debt, and a drift of wealth to the cities; the reduction of owners to a tenant status; and the drift of rural youth to cities and the further impoverishment of rural areas.

Two related postulates, the basic principles of national policy, are to insure the reproduction of the race and the widespread ownership of land by farmers. The solution of the rural problem rests upon the adherence to these principles. To achieve the objectives, a reversal of present trends in farm and community organization is necessary. Rural youth should be trained for agriculture and encouraged to remain in agriculture. Farm incomes and farm living standards would be increased by greater attention to production for home use, by making investments for living, and through efforts to reduce debt. Economic benefits would be supplemented with a restoration of rural values. The key to this implies a cessation of psychological changes, a return to the family ideals, recognition of the divine in man, and loyalty to the state. Deeper satisfactions in farm life imply an emphasis on the dignity of labor, a willingness to sacrifice present satisfactions for future possession, and a comprehension of the need for widespread distribution of property. A return to the familistic culture and rural values sacrificed to specialization and commercialization would mean a revival of the ancient voluntary institutions, the school, the fraternal order, and the church. The responsibility for restoration of rural ideals and institutions rests with the state and with the church.

In three short chapters in part II, Mr. Borsodi sets forth his plan for rural life. He prefaces his plan with the cultural conditions of modern life, which are rule by science rather than by tradition, guidance by natural law rather than by dogma and a tendency to give greater value to facts and figures than to wisdom. The modern age is characterized as the machine age, as opposed to a handicraft age; a credit economy as compared to a barter economy, and what is urban and metropolitan as contrasted to what is rural and agrarian. The agriculture that is developed in a society dominated by the scientific, mechanic, industrial, commercial, and urban is essentially an agriculture which is a business and an industry rather than the usual conception of agriculture as a science and an art. Modern agriculture becomes a business first and a way of life second.

Mr. Borsodi suggests that the solution of our agricultural problem rests upon a consideration of certain aspects of agriculture, usually neglected because they are considered fixed and unchangeable. These would include: land tenure with the accompanying specter of land speculation; mechanization, and the abuse of the principle of specialization;

the treatment of the soil as chemical capital to be converted into wealth; the devotion to farming for the market and the accompanying high cost of distribution. Mr. Borsodi challenges sharply the mechanistic concept and questions the mechanical "progress" that released from agriculture 20,000,000 workers to industry, business, and the professions at a time when the technologically unemployed in the city were counted by millions.

He questions the ultimate saving of increased efficiency of production which is only balanced by an increased cost of distribution. Why, with increased efficiency in production and a lowering of costs, has the farmer's share of the consumer's dollar not grown larger? The economists have accepted here a fundamental error. Efficiency in distribution is correlated with efficiency of production, but the fact is that distribution costs are inverse to production costs. Although costs may be lowered by concentrating production and producing a surplus at one point, this concentration results in higher costs of distribution. The remedies, stated more positively than those of Dr. Baker, are not dissimilar.

Mr. Borsodi would abandon industrial farming, would increase production for farm and home consumption, and would adapt modern methods to small-scale operations. The measures would involve education as to the futility of the industrialization of agriculture, and provide encouragement to revive small businesses in connection with farming. As an ideal, the satisfaction of the needs of the family should be placed above the development of an agricultural industry.

In Part III, *Science and Folklore in Rural Life*, Mr. Wilson summarizes the influence of technical developments and economic changes on rural living and finds them not all bad. American rural culture is undergoing a rapid change. Basic changes result from developments in science and technology. From the freehold farm and a self-sufficient, rugged, lusty, and independent culture, the shift has been toward greater material comforts, urban conveniences, and spectator amusements. While agreeing with Mr. Borsodi that the industrial revolution has introduced much that is ugly into our civilization and that some labor-saving specialization may be lost motion, Mr. Wilson maintains that such things as higher material standards, automobiles, radios, telephones, electricity, and access to libraries bring much that is desirable to rural communities. Disadvantages arise because technical benefits are not equally distributed, but this inequality and the costs of excessive commercialization are not causes for acute pessimism. Rural America is faced with a period of cultural transition and the problem is to determine what is good and what is bad in scientific culture and to combine this with the best from the self-sufficient, folklore farming culture that it is displacing.

The areas of self-sufficient culture remaining are areas of surplus population and areas in which the population tends to increase. With no outlet for the excess population, lower standards of living result. This tendency to congestion and such characteristics as low productivity would be unwise to perpetuate, but such virtues as the settled family enterprise, the emphasis on the home, social stability, community contacts, and the psychologically important "complete experience" can well be preserved. Limitations of the self-sufficient economy, such as the need for cash and the difficulty of maintaining a self-sufficient system in the arid regions, need not prevent the endeavor to consolidate the gains of science with the best of the older rural culture. Some brief descriptions of communities where the effort to develop the benefits of both types of culture are given.

Despite these three different approaches to the problem of Agriculture in Modern Life and despite the variations of treatment and divergence of background, the authors agree in the main on the causes of agricultural problems and can reach some accord regarding their solution. That solution is a return in some measure to the practices that gave solidity to the rural cultural patterns of a century ago.

Here is a book that will give pleasure to all readers who are interested in the economic and social problems related to agriculture. Although he may have gone over the ground before, the reader should find much to interest and stimulate him. He may not agree that the culture which stemmed from a hard-working, rugged, self-sufficient economy is superior to that culture now springing from commercial rural areas. He may disagree as to the advantage of reversing present trends to preserve a part of that culture to modern life. He may lack confidence in the effectiveness of measures proposed to achieve this end—the authors themselves do not reach a perfect agreement—but he can hardly fail to appreciate the viewpoint presented and to profit from reading "Agriculture and Modern Life."—RUSSELL S. KIFER.

SOIL CONSERVATION. By *Hugh Hammond Bennett*. McGraw-Hill. New York. 993 pp. 1939 illustrated

"Millions of acres of our land are ruined, other millions of acres already have been harmed . . . not mere soil is going down the slopes, down the rivers, down to the wastes of the oceans. Opportunity, security, the chance for a man to make a living from the land—these are going too." Thus Dr. Bennett writes, and then, for 958 pages, with 389 footnotes, 358 pictures, figures and charts, 61 graphs, 46 tables, and 17 maps distributed over 43 chapters, he tells how and why, and when and where—and what can be done about it.

Vividly rendered, this story of erosion and civilization, of cause and effect, is at once both tragic and enheartening.

Wherever vegetation will flourish on this earth, approximately 8 inches of dirt supplies the food for all the plant and animal life. The history of the rise and fall of nations is, in great part, the history of what has happened to this 8 inches of dirt. The exploitation and maladministration of the land has been the cause of both the conquest and the decay of many civilizations. It seems as if wherever man has cut the forest, plowed the soil, or herded cattle, he has left a blight upon the earth. The land of Abraham, the slopes of Amanus and Lebanon, are barren now. The irrigated terraces of Phoenicia and Syria and Sybaris and Carthage are no more. The fertile fields surrounding ancient Antioch, once a city of 400,000 persons, are today bare and rocky, and fewer than 30,000 persons reside there. Tarsus, ancient seaport once visited by Cleopatra's fleet, now lies 10 miles from water because of plowed fields and rivers heavy with sediment. The followers of Cyrus and Xerxes, of Alexander the Great and Antar, of Genghis Khan and Ptolemy I, the lands of Greece and Persia, of Mesopotamia and Babylon—of all those people, of all that land once favored with rich soils, flowing waters, and gentle climates—only the sun remains. In Asia, Africa, Europe, North and South America, the history of erosion, written upon the earth's surface, is the story of man's hope, ignorance, and despair. Poor farming has ruined land in less than a generation; poor land use administration on a larger scale has caused the death of millions, either by starvation, or in battle for more land. Man has the uncanny capacity, it seems, for making a mess of nature's gifts.

That is the tragic part of it.

Even in our country, young and as rich as we are, wind erosion, water erosion, gullyng, erosion, floods, and sedimentation already have taken their toll. Our misuse of the land has left gigantic scars upon the surface of the land. Due to either ignorance or greed, millions of acres and billions of dollars and thousands of lives have been wasted. Is this necessary? Are we to permit 8 inches of uncontrolled dirt to decide our destiny? Dr. Bennett maintains that we need not.

Soil conservation is many things. It is crop rotation, strip cropping, field contouring, terracing, grass planting, and constructing run-off channels. It is the growing of trees for windbreaks, the building of small dams and checks to conserve rainfall and prevent gullyng, and it is the intelligent application of a few hand tools, a couple of logs, a bag of seed, some spikes, two willing hands, and the ability to follow directions. It is also the building of levees and the lining of river banks, the construction of huge dams and flood control projects and the carrying out of programs requiring millions of dollars.

Dr. Bennett tells the reader just what to plant and where and when to plant it to get the best results. The fastest growing trees for making windbreaks, the most desirable bushes for stopping small gullies, the easiest way to rehabilitate and to prevent erosion are all mentioned. He illustrates and tells of the things the farmer can do for himself, of what the county and State can do for its citizens, and what the Nation can do for all. And he mentions what has been done and is being done. That is the enheartening part.

The perusal of "Soil Conservation" may give one the feeling that only a nation of profligates would leave to coming generations a wasted land heavily burdened and unable to pay its way.

Or, to put it another way—because nations are composed of individuals—only an irresponsible wastrel would knowingly leave to his children a heavily indebted and wasted estate. And with such a belief I do not agree.

Soil conservation may be many things—but it is not politics, war, tariffs, free trade, nor is it changing habits nor the costs of things that farmers buy, and it is not desire for an education for his children.

Even if soil conservation methods were free for the asking, many farmers would never be in position to adopt them; the dire need for forcing their small plots of land to produce the utmost in order that they may obtain the bare necessities of life, to pay their taxes and interest, and educate their children, may be so great as to make soil conservation, for them, an impossible achievement. Such men are not wastrels—nor is a nation composed of such men a nation of profligates.

Then again, the records show that many nations—and many civilizations—have practiced soil conservation only to pass into the limbo of forgotten things, leaving behind them for tombstones their irrigation canals and aqueducts, their dams and terraced slopes.

In an economy where men of the soil have always left it in their search for the stars, soil conservation is just one small answer to the many problems confronting us in this enigma, the world in which we live.

Still, for all those who are interested in conservation, in the welfare of the people and the future of the land, "Soil Conservation" is a "must" book.

—DONN LAYNE.

For your attention

FOREST RESOURCES OF SOUTHWEST LOUISIANA. J. W. Cruikshank. *Forest Survey Release No. 43. Southern Forest Exp. Station, New Orleans, La. April 1939.*

The object of the study upon which this bulletin reports was: to make an inventory of the present supply of timber and other products; to ascertain the rate at which this supply is being insured through growth; to determine the rate at which the supply is being diminished; to determine present requirement and probable future trend in the requirement for timber and other forest products; and to correlate these findings with existing and anticipated economic conditions so that policies for the effective use of lands suitable for forest production may be formulated.

STATE REFORESTATION IN TWO NEW YORK COUNTIES—*The Story of the Land and the People.* T. E. LaMont. *Cornell University Bull. 712. Ithaca, N. Y. February 1939.*

This bulletin gives an account of how little social disturbance is created by a well-organized, unhurried, long-time purchase program. For example, only 17 percent of the parcels sold were operated during the year before State purchase, 40 percent had been idle 10 years or more. In reforestation areas, one-third of the parcels sold never had a house. Of those that once had a house, the house or barn was gone or falling on 61 percent, and on only 21 percent did former owners consider house and barn fair or good. Those selling gave various reasons: farm of no use to owner, unproductive, timber had been cut, location was poor, or they had too much land.

THE SOCIOLOGY OF DROUGHT. Allen D. Edwards. *Rural Sociology* 4 (2) 190. *Rural Sociological Society, La. State Univ. Press. University, La. June 1939.*

This study of a drought-area county in the Southern Great Plains attempts to analyze the effects of recurrent droughts on population, systems of farming, standard of living, community organization, public relief and assistance, and attitudes and opinions. A striking similarity of the effects of drought upon community life is apparent in a comparison of several drought periods. The general pattern of social changes during drought is summarized. An outstanding feature of the recent drought of 1932-36 has been the large amount of Federal assistance which has served to stabilize the farming economy. Recommendations to avert the worst disastrous effects of future droughts do not involve a complete shift from wheat growing, but rather a better adaptation of this type of farming to the climate of the Great Plains along with increased diversification and greater emphasis on measures designed to control soil blowing. (Abstract.)

MANAGEMENT OF TAX REVERTED LANDS IN OREGON. *Arthur Damschen and V. B. Stanberry. Oregon State Planning Board, Portland, Oreg. 1938.*

This bulletin discusses problems of administering tax-reverted lands in Oregon and presents information useful to county officials in managing such lands. Among the subjects are the growth, extent, and value of lands reverted to county ownership; the problems facing county officials in administering tax reverted lands, and accomplishments in this direction by various counties; methods and procedure for land management, and best methods of utilizing types of property; Oregon legislation relating to land management; policies and programs developed by other States; extent of delinquency in Oregon and probable future experience.

DESIGN FOR PENNSYLVANIA LOCALITIES. *H. F. Alderfer. National Municipal Review. XXVIII (10) 698-707. October 1939.*

Reorganization of local governments along up-to-date, efficient lines—home rule, manager plan for counties and cities, strong merit system, improved financial procedure—must come, the author believes, if smaller units of government are to be preserved as part of our democratic processes. (Abstract.)

YOUR HOME TOWN. . . . A COMMUNITY DEVELOPMENT HANDBOOK. *Frederick P. Clark. New Hampshire Planning and Development Commission. Concord, N. H. 1939.*

Published "in response to demand for nontechnical, understandable information on various problems associated with development of a community," this attractive booklet by a planning director merits attention.

Its foreword significantly expresses the Commission's hope "that this handbook may help in stimulating local interest and activity in making New Hampshire not necessarily 'bigger,' but *better*." It is attractive, well illustrated, informative, and practical.

It mentions, among opportunities for community development, prospects for industrial or recreational expansion but points out that towns that have arrived at the peak of their possible or desired development should have the objective of continued prosperity.

Other topics treated in terse, pointed fashion include: Future population; changing trends in vital statistics and residential areas; the need for facts on industrial possibilities; questions with regard to a new industry and present conditions; community appearance; roadside development, street lay-out, unneeded streets, zoning and traffic; transportation; parks and playgrounds the provision of community services; the community financial plan; the preparation of a community development plan.

HISTORICAL SKETCHES OF HARFORD COUNTY, MARYLAND. *Samuel Mason, Jr. Published by the Author. 119 pp. 1940.*

Mr. Mason wrote his friendly, interesting, cheerful book during his winter evenings on the basis of his reading, observations, notes and memories about his community, which, obviously, he loves with an understanding love.

The volume may be said to have primarily a local appeal, but in a broader sense it should arouse interest on two points: Its subject matter pertains to a history with which many have come in contact either through reading or ancestral connections, and it is an example of the contribution which farmers—or others—could make toward the preservation of historical facts, folklore and information of their own communities.

That is an important basis of formal history. Mr. Mason writes of exploration and early settlement, frontier forts and border troubles, iron furnaces and forges and mills. He concludes with what he calls 18 "unrelated sketches."

The details he gives are romantic; the names, even, are entrancing: Baltimore on Bush; Old Joppa, Harford Town, Bald Friar, Conowingo Flint Mill, Headless Ghost.

Russell Lord contributed an introduction in which he aptly says: "These rolling hills and sheltered valleys of Harford County at the Chesapeake headwaters yield a great deal more than grain and livestock now. They yield ease, grace and serenity, legends and tales that rise above the Almighty Dollar and laugh about it, poems to this soil, eloquent singing and painting, unaffected but distinguished prose in the county papers, and books such as this."

MARKETING CORDWOOD IN NEW HAMPSHIRE. *Henry I. Baldwin. Journal of Forestry 37 (6) 474. Society of American Foresters, Mills Bldg. Washington, D. C. June 1939.*

It is comparatively easy, Mr. Baldwin says, to engage in forest improvement activities when the public pays the bill, but it is much more difficult to engage in such activities when the resulting forest products must pay the bill. In this article Dr. Baldwin describes what is being done in New Hampshire to market the fuelwood resulting from stand improvement with a profit to the forest owner, at the same time giving employment to people in distress at low cost to the public.

SUMMARY OF SELECTED FEDERAL LEGISLATION OF INTEREST TO PLANNING AGENCIES, 76TH CONGRESS, FIRST SESSION. *National Resources Planning Board Circular XIII. Washington, D. C. September 1939.*

This summary presents a selected coverage of the major provisions of the following laws: Appropriation to the Board for the fiscal year ending June 30, 1940; extension of Joint Congressional Committee investigating phosphate resources of the United States; authorization for acquiring stocks of strategic and critical materials and scientific and technologic investigations related thereto, etc.

CURRENT PROGRAMS OF WORK—STATE PLANNING BOARDS. *Circular XI, National Resources Planning Board. Washington, D. C. September 1939.*

The National Resources Planning Board has here assembled a statement of current activities of all State planning boards for the period July 1–December 31, 1939. Programs to be carried out in cooperation with the *Bureau of Agricultural Economics* are listed and briefly described.

A GUIDE FOR COURSES IN THE HISTORY OF AMERICAN AGRICULTURE. E. E. Edwards. United States Department of Agriculture Bibliographical Contribution No. 35. Washington, D. C. September 1939.

This bibliography is designed to assist students and teachers in the correlation of class lectures, discussions, and readings in courses on the history of American agriculture. It supplements, as a bibliography, but does not supersede United States Department of Agriculture, Misc. Pub. 84, Bibliography of the History of American Agriculture in the United States, issued in 1939.

RURAL RELIEF AND RECOVERY. Rupert B. Vance. Social Problems Report No. 3. W. P. A. Washington, D. C. 1939.

Many persons seem to find it difficult to understand why there should be so much need for relief in rural sections, especially among farmers who supply the Nation with food. Nevertheless, although rural relief needs have declined since 1935, 3,500,000 rural families have received assistance at some one time.

This pamphlet is designed to present nontechnical information to show what has happened to our agricultural population. The author says that the long rural depression, population pressure, unequal opportunity, farm tenancy, maladjustment of land resources, drought, and even village problems have been responsible in some measure for the position of the agricultural population.

NATIONAL RESOURCES PLANNING FACTS FOR USE, CONSERVATION, ORGANIZATION—PEOPLE, LAND, WATER, MINERAL. National Resources Committee. Government Printing Office. Washington, D. C. 1939.

Our national resources, this brief summary says, include "the 2,000,000,000 acres of land within the United States, the rain and snow that falls on this land, the rivers, waterfalls, and lakes, the coal, oil, gold and silver, and other mineral deposits that lie on and beneath the land, the people that live here and their multitude of talents, skills, and activities." It adds that "the wealth of the Nation is measured in the way we conserve, use, and develop these resources." Today the wasteful, planless use of our still great resources continues in many fields. Pertinent facts concerning our population, land, water, and mineral resources are summarized, and the functions of the National Resources Committee are briefly outlined.

TAX DELINQUENT LAND IN CALIFORNIA—A REVIEW OF THE PROBLEM AND A PLAN FOR ITS SOLUTION. California State Planning Board. Sacramento. 1938.

This report deals with one of the State's more serious fiscal and land-use problems and contains a plan designed to reduce tax delinquency and to handle tax-deed land.

Recommendations include plans to eliminate certain causes of land-tax delinquency by county, city, and State action; improve State laws governing land-tax delinquency and the management of land forfeited by private owners; prepare complete records of land delinquent for 5 years and quiet title to each parcel deeded to the State; classify all land which has been deeded to the State to determine its best ultimate use and ownership; and to allocate tax-deeded land in accordance with recommendations of the State land commission.

RELATION OF ASSESSED VALUE TO SALES VALUE OF KANSAS REAL ESTATE,
1933-37, INCLUSIVE. *Kansas State Planning Board. Topeka. July*
1939.

In the spring of 1938 the Kansas State Planning Board was requested by the State tax commission (now the commission of revenue and taxation) to institute a study to compare the assessed valuation with the sales value of real estate transferred in the 70 counties of the State during the years 1933-37, inclusive, the objective being to obtain information which would aid the commission in its work of equalizing real-estate values throughout the State.

Kansas statutes governing the assessment of real estate provide that it shall be assessed at its "true value in money." Several explanations have been made for the inequalities in the administration of the law: (1) the law requires that township trustee be appointed deputy assessor for the townships in which elected; (2) the law requires that assessments be completed within 50 days; (3) the tendency toward competitive undervaluation by the assessors of the various districts in an effort to put a larger share of the tax burden on the taxpayers of other districts.

In interpreting the results of the study (given only in tabular form) the planning board points out that while the small number of transfers made over the 5-year period constitutes a small sample from which to draw conclusions for the whole State, the sample provides the only available information. The total assessed valuation of all properties involved in the transactions studied was approximately \$25,000,000, of which about \$9,000,000 represented rural and \$16,000,000 urban property. The total assessed value of rural and urban property was more than \$1,000,000,000, and the total assessed value of the transferred real estate studied was, therefore, 2.4 percent of the total assessed value of all real estate in the counties studied.

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